

(54) [Title of the Invention] INFORMATION COMMUNICATION METHOD

(57) [Abstract]

[Problem] To provide an information communication method enabling an information transmitter to bear output costs.

[Means for Solution] An information transmitting computer transmits payment reservation data to a payment recording computer (501). The information transmitting computer outputs a connection request to establish connection, and transmits a data packet including the payment reservation data. The payment recording computer stores data included in a payment guarantee ID data and the payment reservation data in a payment reservation data storage unit as one data record, and transmits payment guarantee data to the information transmitting computer (502). When the information transmitting computer receives the payment guarantee ID data, it transmits the payment guarantee ID data and transmission information data stored in a transmission information data storage unit to an information receiving computer identified by a stored address (503). When the information receiving computer receives the transmission data, it performs a payment confirmation process. The information receiving computer extracts the payment guarantee ID data from the transmission data, and transmits payment confirmation request data including the payment guarantee ID data to the payment recording computer (504).

[CLAIMS]

[Claim 1] An information communication method comprising:

an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information; and

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 2] The information communication method according to claim 1, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost payment management step.

[Claim 3] An information communication method comprising:

an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received

transmission information;

a charging step of charging a fee corresponding to the output cost in the information receiving step; and

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 4] An information communication method comprising:

an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information; and

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 5] The information communication method according to claim 4, further comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is

verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 6] An information communication method comprising:

an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information; and

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 7] The information communication method according to claim 6, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[Claim 8] The information communication method according to claim 6 or 7, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the

property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 9] The information communication method according to any one of claims 1 to 8,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 10] A data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the data management method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 11] A data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the data management method comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 12] A data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the data management method comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 13] A data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the data management method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 14] The data management method according to claim 13, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 15] The data management method according to any one of claims 10 to 14,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 16] An information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information transmitting method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information transmitting step, the management data is transmitted.

[Claim 17] An information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the information transmitting method comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears

the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information transmitting step, the charged fee payment data is transmitted.

[Claim 18] An information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information transmitting method comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver,

wherein, in the information transmitting step, the contract data is transmitted.

[Claim 19] An information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information transmitting method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information transmitting step, the property transfer data is transmitted.

[Claim 20] The information transmitting method according to claim 19,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 21] The information transmitting method according to any one of claims 16 to 20,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 22] An information receiving method when information communication is performed by an information communication method including an information transmitting step of

transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information receiving method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information receiving step, the management data is received.

[Claim 23] An information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the information receiving method comprising:

a charged fee payment data management step of managing

data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information receiving step, the charged fee payment data is received.

[Claim 24] An information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information receiving method comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[Claim 25] An information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information receiving method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information receiving step, the property transfer data is received.

[Claim 26] The information receiving method according to claim 25,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 27] The information receiving method according to any one of claims 22 to 26,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 28] An information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information

transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost, the information output control method comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[Claim 29] An information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information output control method comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 30] An information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost, the information output control method comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[Claim 31] The information output control method according to claim 30,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer

data.

[Claim 32] The information output control method according to any one of claims 28 to 31,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 33] An information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of the management data according to the output cost payment management step.

[Claim 34] The information output method according to claim 33, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[Claim 35] An information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a charging step of charging a fee corresponding to the output cost in the information receiving step;

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step.

[Claim 36] An information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a verification step of verifying that the transmission information received in the information receiving step is

transmitted from a contracted information transmitter; and
an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 37] An information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;
an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[Claim 38] The information output method according to claim 37, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing the transfer of property corresponding to the output cost is received

in the property transfer data communication step.

[Claim 39] The information output method according to claim 37,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 40] The information output method according to any one of claims 33 to 39,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 41] A program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 42] The program product according to claim 41, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost

payment management step.

[Claim 43] A program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 44] A program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 45] The program product according to claim 44, further

comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 46] A program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 47] The program product according to claim 46, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property

transfer data management step.

[Claim 48] The program product according to claim 46 or 47, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 49] The program product according to any one of claims 41 to 48,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 50] A program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 51] A program product for implementing a billing

management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 52] A program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 53] A program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 54] The program product according to claim 53, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 55] The program product according to any one of claims 50 to 54,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 56] A program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information transmitting step, the management data is transmitted.

[Claim 57] A program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging

step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information transmitting step, the charged fee payment data is transmitted.

[Claim 58] A program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver,

wherein, in the information transmitting step, the contract data is transmitted.

[Claim 59] A program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

 a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

 a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

 wherein, in the information transmitting step, the property transfer data is transmitted.

[Claim 60] The program product according to claim 59,

 wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 61] The program product according to any one of claims 56 to 60,

 wherein, in the information output step, the transmission

information is printed on a sheet-shaped recording medium.

[Claim 62] A program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information receiving step, the management data is received.

[Claim 63] A program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of

outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information receiving step, the charged fee payment data is received.

[Claim 64] A program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[Claim 65] A program product for implementing an information receiving method when information communication is performed

by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information receiving step, the property transfer data is received.

[Claim 66] The program product according to claim 65,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 67] The program product according to any one of claims 62 to 66,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 68] A program product for implementing an information

output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost, the program product comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[Claim 69] A program product for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 70] A program product for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost, the program product comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[Claim 71] The program product according to claim 70,
wherein payment data when supplies used in the information
output step are sold is managed based on the property transfer
data.

[Claim 72] The program product according to any one of claims
68 to 71,

wherein, in the information output step, the transmission
information is printed on a sheet-shaped recording medium.

[Claim 73] A program product comprising:

an information receiving step of receiving, through a
network, transmission information transmitted in an information
transmitting step of transmitting the transmission information
from an information transmitter to an information receiver;

an information output step of outputting the received
transmission information, an output cost being required to output
the transmission information;

an output cost payment management step of managing data
for charging the information transmitter who transmits
information in the information transmitting step the output cost;
and

a management data communication step of performing the
communication of the management data according to the output
cost payment management step.

[Claim 74] The program product according to claim 73, further
comprising:

an output control step of outputting the transmission
information received in the information receiving step in the

information output step only when data guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[Claim 75] A program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a charging step of charging a fee corresponding to the output cost in the information receiving step;

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step.

[Claim 76] A program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output

the transmission information;

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 77] A program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[Claim 78] The program product according to claim 77, further comprising:

an output control step of outputting the transmission

information received in the information receiving step in the information output step only when data for guaranteeing the transfer of property corresponding to the output cost is received in the property transfer data communication step.

[Claim 79] The program product according to claim 77,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 80] The program product according to any one of claims 73 to 79,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 81] A storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 82] The storage medium according to claim 81,

wherein the program further includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost payment management step.

[Claim 83] A storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 84] A storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the

transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 85] The storage medium according to claim 84,

wherein the program further includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 86] A storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the

output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 87] The storage medium according to claim 86,

wherein the program further includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[Claim 88] The storage medium according to claim 86 or 87,

wherein the program further includes:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 89] The storage medium according to any one of claims 81 to 88,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 90] A storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[Claim 91] A storage medium that computer-readably stores a program for implementing a billing management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[Claim 92] A storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information

communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[Claim 93] A storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the

information transmitting step the output cost.

[Claim 94] The storage medium according to claim 93,

wherein the program further includes:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 95] The storage medium according to any one of claims 90 to 94,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 96] A storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step, and

the management data is transmitted in the information transmitting step.

[Claim 97] A storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step, and

the charged fee payment data is transmitted in the information transmitting step.

[Claim 98] A storage medium that computer-readably stores a

program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver, and

the contract data is transmitted in the information transmitting step.

[Claim 99] A storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

the property transfer data is transmitted in the information transmitting step.

[Claim 100] The storage medium according to claim 99,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 101] The storage medium according to any one of claims 96 to 100,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 102] A storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output

the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step, and

the management data is received in the information receiving step.

[Claim 103] A storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step, and

the charged fee payment data is received in the information receiving step.

[Claim 104] A storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[Claim 105] A storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received

transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

the property transfer data is received in the information receiving step.

[Claim 106] The storage medium according to claim 105,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 107] The storage medium according to any one of claims 102 to 106,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 108] A storage medium that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[Claim 109] A storage medium that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 110] A storage medium that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[Claim 111] The storage medium according to claim 110,

wherein payment data when supplies used in the information

output step are sold is managed based on the property transfer data.

[Claim 112] The storage medium according to any one of claims 108 to 111,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 113] A storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and a management data communication step of performing the communication of the management data according to the output cost payment management step.

[Claim 114] The storage medium according to claim 113,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[Claim 115] A storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a charging step of charging a fee corresponding to the output cost in the information receiving step; a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step.

[Claim 116] A storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a verification step of verifying that the transmission information received in the information

receiving step is transmitted from a contracted information transmitter; and an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[Claim 117] A storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[Claim 118] The storage medium according to claim 117,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing the

transfer of property corresponding to the output cost is received in the property transfer data communication step.

[Claim 119] The storage medium according to claim 117, wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[Claim 120] The storage medium according to any one of claims 113 to 119,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[Claim 121] An information communication apparatus comprising:

an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost.

[Claim 122] The information communication apparatus according to claim 121, further comprising:

an output control means that controls the information output means to output the transmission information received

by the information receiving means only when the output cost payment management means guarantees that the information transmitter bears the output cost.

[Claim123] An information communication apparatus comprising:

- an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

- an information receiving means that receives the transmission information through a network;

- an information output means that outputs the received transmission information;

- a charging means that charges a fee corresponding to the output cost of the information receiving means; and

- a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means.

[Claim124] An information communication apparatus comprising:

- an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

- an information receiving means that receives the transmission information through a network;

- an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

- a contract data management means that manages contract

data for limiting a destination of the information transmitted by the information transmitting means to a contracted information receiver.

[Claim 125] The information communication apparatus according to claim 124, further comprising:

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[Claim 126] An information communication apparatus comprising:

an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost.

[Claim 127] The information communication apparatus according

to claim 126, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data management means guarantees the transfer of property corresponding to the output cost.

[Claim 128] The information communication apparatus according to claim 126 or 127, further comprising:

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[Claim 129] The information communication apparatus according to any one of claims 121 to 128,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 130] A data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the data management

apparatus comprising:

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost.

[Claim 131] A billing management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the data management apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged in the charging means.

[Claim 132] A data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required

to output the transmission information, the data management apparatus comprising:

a contract data management means that manages contract data for limiting a destination of the information transmitted by the information transmitting means to a contracted information receiver.

[Claim 133] A data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the data management apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost.

[Claim 134] The data management apparatus according to claim 133, further comprising:

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein payment data when supplies used by the information

output means are sold is managed based on the property transfer data.

[Claim 135] The data management apparatus according to any one of claims 130 to 134,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 136] An information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information transmitting apparatus comprising:

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of management data with the output cost payment management means,

wherein the information transmitting means transmits the management data.

[Claim 137] An information transmitting apparatus that performs information communication in an information

communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the information transmitting apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means,

wherein the information transmitting means transmits the charged fee payment data.

[Claim 138] An information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the

information transmitting apparatus comprising:

a contract data management means that manages contract data for limiting a destination of the information transmitted by the information transmitting means to a contracted information receiver,

wherein the information transmitting means transmits the contract data.

[Claim 139] An information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information transmitting apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein the information transmitting means transmits the property transfer data.

[Claim 140] The information transmitting apparatus according to claim 139,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[Claim 141] The information transmitting apparatus according to any one of claims 136 to 140,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 142] An information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information receiving apparatus comprising:

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of management data with the output cost payment management means,

wherein the information receiving means receives the

management data.

[Claim 143] An information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the information receiving apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means,

wherein the information receiving means receives the charged fee payment data.

[Claim 144] An information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the

received transmission information, an output cost being required to output the transmission information, the information receiving apparatus comprising:

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter.

[Claim 145] An information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information receiving apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein the information receiving means receives the property transfer data.

[Claim 146] The information receiving apparatus according to

claim 145,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[Claim 147] The information receiving apparatus according to any one of claims 142 to 146,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 148] An information output control apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, an output cost being required to output the transmission information, and an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost, the information output control apparatus comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the output cost payment management means guarantees the transfer of property corresponding to the output cost.

[Claim 149] An information output control apparatus that

performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information output control apparatus comprising:

 a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

 an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[Claim 150] An information output control apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, an output cost being required to output the transmission information, and a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output

cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost, the information output control apparatus comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data management means guarantees the transfer of property corresponding to the output cost.

[Claim 151] The information output control apparatus according to claim 150,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[Claim 152] The information output control apparatus according to any one of claims 148 to 151,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 153] An information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of the management data with the output cost payment management means.

[Claim 154] The information output apparatus according to claim 153, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the management data communication means receives data for guaranteeing that the information transmitter bears the output cost.

[Claim 155] An information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a charging means that charges a fee corresponding to the output cost of the information receiving means;

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who

transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means.

[Claim 156] An information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[Claim 157] An information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means.

[Claim 158] The information output apparatus according to claim 157, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data communication means receives data for guaranteeing the transfer of property corresponding to the output cost.

[Claim 159] The information output apparatus according to claim 157,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[Claim 160] The information output apparatus according to any one of claims 153 to 159,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[Claim 161] An output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network, the method comprising:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of bearing the output cost according to the reference result.

[Claim 162] The output cost payment method according to claim 161,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from the output cost payment management means through a network, thereby performing payment for the supplies.

[Claim 163] The output cost payment method according to claim 161 or 162,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[Claim 164] A program product for implementing an output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network, the program product comprising:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of bearing the output cost according to the reference result.

[Claim 165] The program product according to claim 164,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from the output cost payment management means through a network, thereby performing payment for the supplies.

[Claim 166] The program product according to claim 164 or 165,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[Claim 167] A storage medium that computer-readably stores a program for implementing an output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network,

wherein the program includes:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of paying the output cost according to the reference result.

[Claim 168] The storage medium according to claim 167,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from the output cost payment management means through a network,

thereby performing payment for the supplies.

[Claim 169] The storage medium according to claim 167 or 168,
wherein the supplies include a sheet-shaped recording
medium and/or ink.

[Claim 170] An output cost payment apparatus that guarantees
an output cost required when an information receiver uses an
information output means to output transmission information
transmitted from an information transmitter through a network,
the apparatus comprising:

an order receiving means that receives a request to
purchase supplies used for the information receiver to output
the transmission information using the information output means
from the information receiver through the network;

a reference means that refers to, through the network,
property transfer data that is managed by an output cost payment
management means and guarantees the transfer of property
corresponding to the output cost to the information receiver
in order to charge the information transmitter who transmits
information the output cost; and

a payment means that pays the output cost according to
the reference result.

[Claim 171] The output cost payment apparatus according to claim
170,

wherein the payment means checks the balance of the
referred property transfer data, and receives the money for the
supplies of the balance from the output cost payment management
means through a network, thereby performing payment for the

supplies.

[Claim172] The output cost payment apparatus according to claim 170 or 171,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[Detailed Description of the Invention]

[0001]

[Technical Field of the Invention] The present invention relates to an information communication method including an information output process requiring an output cost, which is capable of promoting information communication by transferring property in order to allow an information transmitter who transmits information to compensate an information receiver for the output cost, a data management method, an information transmitting method, an information receiving method, an information output control method, an information output method, and an output cost payment method of the information communication method, program products that implement these methods, storage media that store programs implementing these methods, and a data management apparatus, an information transmitting apparatus, an information receiving apparatus, an information output control apparatus, an information output apparatus, and an output cost payment apparatus of an information communication system.

[0002] Particularly, the present invention relates to an information communication method including a printing process performed by, for example, a printer or a facsimile, which is

capable of promoting information communication by transferring property in order to compensate for the running cost.

[0003]

[Related Art] When information is transmitted from an information transmitter to an information receiver, it is generally accepted that the information transmitter bears the information communication costs. For example, when using a direct mail, an information transmitter, who is an advertiser, bears the cost of printing information and the cost of transportation. In addition, in the case of a telephone advertisement, an information transmitter, who is an advertiser, bears telephone charges.

[0004] In these examples, there is no problem in the information communication methods since the information transmitter bears the costs. However, there may be information communication methods in which the information transmitter does not bear the costs. For example, a consumer may call a seller to inquire about product information. In this case, it is generally accepted that the information transmitter who provides the product information bears the telephone charges. However, since a caller is the information receiver, the information receiver bears the telephone charges.

[0005] In order to solve the problem of the information receiver bearing the telephone charges, an information communication method has been proposed in which a callee bears the telephone charges. In this information communication method, first, an information transmitter makes a collect call contract with a

telephone company, and telephone numbers having a specific pattern are allocated to telephone lines according to the contract. For example, in the case of Japan, telephone numbers starting from 0120 (free dial) are allocated. When a call is received through the telephone line, the telephone charge is charged to a callee (that is, an information transmitter), not a caller (that is, an information receiver).

[0006] This information communication method enables the information transmitter to bear the information communication cost, which conforms to a socially accepted idea. In addition, whether the telephone number has a specific pattern makes it possible to clearly know whether the information transmitter bears the information communication cost. Therefore, the information transmitter can notify the information receiver that the information transmitter bears the information transmission cost, and the information receiver can check the fact in advance. In this way, it is possible to prevent the information receiver from refusing information communication due to the information communication cost. Therefore, both the information transmitter and the information receiver can enjoy the merits of information communication.

[0007]

[Problems to be Solved by the Invention] The information communication method according to the related art is a cost payment method when a telephone line is used to perform information communication, in which an information transmitter bears telephone charges, that is, information communication

costs. Therefore, this cannot be applied to an information communication method in which an information receiver generally bears the information communication cost, other than an information communication method in which a caller bears the cost of using an information communication line, such as a telephone.

[0008] Another information communication method has been proposed which uses, for example, a printing apparatus, such as a printer or a facsimile, and a communication line. For example, when a telephone line and a facsimile are used, an information receiver uses the facsimile to print out information transmitted from an information transmitter. Alternatively, when the printer of an information receiver is connected to the Internet directly or through a computer, an information transmitter transmits information, and the information receiver receives the information and prints the received information using the printer, or the information receiver acquires information from an information transmitting apparatus of the information transmitter connected to the Internet and prints out the acquired information using the printer. In this way, information communication from the information transmitter to the information receiver is performed.

[0009] When the printing apparatus outputs information, the running costs for supplies, such as ink, toner, an ink ribbon, and sheets, are required. However, in the related art, an information receiver, such as an owner, possessor, or user of the printing apparatus, has paid the running costs. Therefore,

as described in the related art, even though it is generally accepted that the information transmitter bears the information communication costs as in the advertisement field, the information transmitter has paid a portion or most of the information communication costs.

[0010] In this case, the information receiver is likely to refuse the information communication method using the printing apparatus, and thus neither the information transmitter nor the information receiver may use information communication.

Alternatively, the information transmitter uses a direct mail as a substitute of the information communication method. In this case, it is difficult to enjoy the merits of the information communication method using the printing apparatus, such as immediacy. For example, an advertisement, such as a direct mail, transmitted to a home printer or facsimile through a communication line has advantages in immediacy and a lower cost than a mail service. However, in the information communication method according to the related art, an owner or user of the printer or facsimile has paid the cost of outputting the advertisement. Therefore, it is difficult for the information receiver to accept the information communication method.

[0011] In addition, in a case that a consumer acquires electronic data of a product catalog using, for example, a World Wide Web and uses his or her printer to print the electronic data, when the number of pages of the catalog is large and the output costs increase, the consumer hesitates to print the electronic data, and requests the seller to send the product catalog by mail or

goes to a shop to acquire the product catalog. In this case, there are problems that the consumer does not immediately acquire a desired catalog, it is difficult for the seller to computerize all the catalogs, and the seller needs to print and distribute the catalogs, which results in an increase in labor and costs.

[0012] The present invention has been made in order to solve the above problems, and an object of the present invention is to provide an information communication method that includes an information output process requiring an information output cost as in a printing apparatus, and enables an information transmitter to bear the output cost.

[0013] In the related art, a print system has been proposed which includes a means that uses an information communication method to transmit print data from a print client to a print service provider, and transfers a print cost required when the print service provider performs printing from the print client to the print service provider. However, the print system does not use a printing method in order to transmit information from the print client to the print service provider. Therefore, this system does not provide an information communication method that performs payment for information communication costs.

[0014] Particularly, in this system, the print service provider does not request the print client to transmit print data. Therefore, when an information receiver requests an information transmitter to transmit, for example, a catalog, it is difficult to achieve an information communication method in which the information transmitter bears the information output costs. In

addition, when an information transmitter transmits information to a plurality of information receivers as in the advertisement field, it is difficult to achieve an information communication method in which the information transmitter bears the information output costs.

[0015] Furthermore, in the related art, a method has been proposed in which, when an information receiver bears information communication costs or information costs, in order to reduce the payment amount, the original information and advertisement information different from the original information are simultaneously output, and an advertisement information provider bears a portion or all of the money paid by the information receiver. However, this method needs to have a means that provides the advertisement information different from the original information, which makes it difficult to achieve an information communication method according to the present invention.

[0016]

[Means for Solving the Problem] The invention of Claim 1 provides an information communication method comprising:

- an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

- an information receiving step of receiving the transmission information through a network;

- an information output step of outputting the received transmission information, an output cost being required to output

the transmission information; and

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0017] The invention of Claim 2 provides the information communication method according to claim 1, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost payment management step.

[0018] The invention of Claim 3 provides an information communication method comprising:

an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received transmission information;

a charging step of charging a fee corresponding to the output cost in the information receiving step; and

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0019] The invention of Claim 4 provides an information

communication method comprising:

- an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

- an information receiving step of receiving the transmission information through a network;

- an information output step of outputting the received transmission information, an output cost being required to output the transmission information; and

- a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0020] The invention of Claim 5 provides the information communication method according to claim 4, further comprising:

- a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

- an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0021] The invention of Claim 6 provides an information communication method comprising:

- an information transmitting step of transmitting transmission information from an information transmitter to an information receiver;

an information receiving step of receiving the transmission information through a network;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information; and

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[0022] The invention of Claim 7 provides the information communication method according to claim 6, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0023] The invention of Claim 8 provides the information communication method according to claim 6 or 7, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0024] The invention of Claim 9 provides the information

communication method according to any one of claims 1 to 8,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0025] The invention of Claim 10 provides a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the data management method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0026] The invention of Claim 11 provides a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the data management method comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0027] The invention of Claim 12 provides a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the data management method comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0028] The invention of Claim 13 provides a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the

data management method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[0029] The invention of Claim 14 provides the data management method according to claim 13, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0030] The invention of Claim 15 provides the data management method according to any one of claims 10 to 14,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0031] The invention of Claim 16 provides an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the

information transmitting method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information transmitting step, the management data is transmitted.

[0032] The invention of Claim 17 provides an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the information transmitting method comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the

charged fee payment data management step,

wherein, in the information transmitting step, the charged fee payment data is transmitted.

[0033] The invention of Claim 18 provides an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information transmitting method comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver,

wherein, in the information transmitting step, the contract data is transmitted.

[0034] The invention of Claim 19 provides an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output

cost being required to output the transmission information, the information transmitting method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information transmitting step, the property transfer data is transmitted.

[0035] The invention of Claim 20 provides the information transmitting method according to claim 19,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0036] The invention of Claim 21 provides the information transmitting method according to any one of claims 16 to 20,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0037] The invention of Claim 22 provides an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission

information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information receiving method comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information receiving step, the management data is received.

[0038] The invention of Claim 23 provides an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the information receiving method comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears

the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information receiving step, the charged fee payment data is received.

[0039] The invention of Claim 24 provides an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information receiving method comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[0040] The invention of Claim 25 provides an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output

cost being required to output the transmission information, the information receiving method comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information receiving step, the property transfer data is received.

[0041] The invention of Claim 26 provides the information receiving method according to claim 25,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0042] The invention of Claim 27 provides the information receiving method according to any one of claims 22 to 26,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0043] The invention of Claim 28 provides an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission

information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost, the information output control method comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[0044] The invention of Claim 29 provides an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the information output control method comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is

verified that the transmission information is transmitted from the information transmitter in the verification step.

[0045] The invention of Claim 30 provides an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost, the information output control method comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0046] The invention of Claim 31 provides the information output control method according to claim 30,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0047] The invention of Claim 32 provides the information output control method according to any one of claims 28 to 31,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0048] The invention of Claim 33 provides an information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of the management data according to the output cost payment management step.

[0049] The invention of Claim 34 provides the information output method according to claim 33, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[0050] The invention of Claim 35 provides an information output method comprising:

- an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

- an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

- a charging step of charging a fee corresponding to the output cost in the information receiving step;

- a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

- a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step.

[0051] The invention of Claim 36 provides an information output method comprising:

- an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

- an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0052] The invention of Claim 37 provides an information output method comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[0053] The invention of Claim 38 provides the information output method according to claim 37, further comprising:

an output control step of outputting the transmission

information received in the information receiving step in the information output step only when data for guaranteeing the transfer of property corresponding to the output cost is received in the property transfer data communication step.

[0054] The invention of Claim 39 provides the information output method according to claim 37,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0055] The invention of Claim 40 provides the information output method according to any one of claims 33 to 39,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium. The invention of Claim 41 provides a program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0056] The invention of Claim 42 provides the program product according to claim 41, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost payment management step.

[0057] The invention of Claim 43 provides a program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0058] The invention of Claim 44 provides a program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission

information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0059] The invention of Claim 45 provides the program product according to claim 44, further comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0060] The invention of Claim 46 provides a program product for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the

information transmitting step the output cost.

[0061] The invention of Claim 47 provides the program product according to claim 46, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0062] The invention of Claim 48 provides the program product according to claim 46 or 47, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0063] The invention of Claim 49 provides the program product according to any one of claims 41 to 48,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0064] The invention of Claim 50 provides a program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0065] The invention of Claim 51 provides a program product for implementing a billing management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0066] The invention of Claim 52 provides a program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving

step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0067] The invention of Claim 53 provides a program product for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[0068] The invention of Claim 54 provides the program product according to claim 53, further comprising:

a property transfer data communication step of performing the communication of property transfer data according to the

property transfer data management step,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0069] The invention of Claim 55 provides the program product according to any one of claims 50 to 54,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0070] The invention of Claim 56 provides a program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step,

wherein, in the information transmitting step, the management data is transmitted.

[0071] The invention of Claim 57 provides a program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information transmitting step, the charged fee payment data is transmitted.

[0072] The invention of Claim 58 provides a program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver,

wherein, in the information transmitting step, the contract data is transmitted.

[0073] The invention of Claim 59 provides a program product for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information transmitting step, the property transfer data is transmitted.

[0074] The invention of Claim 60 provides the program product according to claim 59,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0075] The invention of Claim 61 provides the program product according to any one of claims 56 to 60,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0076] The invention of Claim 62 provides a program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost

payment management step,

wherein, in the information receiving step, the management data is received.

[0077] The invention of Claim 63 provides a program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step, the program product comprising:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step,

wherein, in the information receiving step, the charged fee payment data is received.

[0078] The invention of Claim 64 provides a program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step

of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[0079] The invention of Claim 65 provides a program product for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step,

wherein, in the information receiving step, the property transfer data is received.

[0080] The invention of Claim 66 provides the program product according to claim 65,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0081] The invention of Claim 67 provides the program product according to any one of claims 62 to 66,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0082] The invention of Claim 68 provides a program product for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost, the program product comprising:

an output control step of outputting the transmission information received in the information receiving step in the

information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[0083] The invention of Claim 69 provides a program product for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information, the program product comprising:

- a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

- an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0084] The invention of Claim 70 provides a program product for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost, the program product comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0085] The invention of Claim 71 provides the program product according to claim 70,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0086] The invention of Claim 72 provides the program product according to any one of claims 68 to 71,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0087] The invention of Claim 73 provides a program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information

from an information transmitter to an information receiver;
an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost;
and

a management data communication step of performing the communication of the management data according to the output cost payment management step.

[0088] The invention of Claim 74 provides the program product according to claim 73, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[0089] The invention of Claim 75 provides a program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a charging step of charging a fee corresponding to the output cost in the information receiving step;

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step.

[0090] The invention of Claim 76 provides a program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0091] The invention of Claim 77 provides a program product comprising:

an information receiving step of receiving, through a network, transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver;

an information output step of outputting the received transmission information, an output cost being required to output the transmission information;

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[0092] The invention of Claim 78 provides the program product according to claim 77, further comprising:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing the transfer of property corresponding to the output cost is received in the property transfer data communication step.

[0093] The invention of Claim 79 provides the program product according to claim 77,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data. The invention of Claim 80 provides the program product

according to any one of claims 73 to 79,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0094] The invention of Claim 81 provides a storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0095] The invention of Claim 82 provides the storage medium according to claim 81,

wherein the program further includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when it is guaranteed that the information transmitter bears the output cost in the output cost payment management step.

[0096] The invention of Claim 83 provides a storage medium that computer-readably stores a program for implementing an information communication method including an information

transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0097] The invention of Claim 84 provides a storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0098] The invention of Claim 85 provides the storage medium

according to claim 84,

wherein the program further includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0099] The invention of Claim 86 provides a storage medium that computer-readably stores a program for implementing an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[0100] The invention of Claim 87 provides the storage medium according to claim 86,

wherein the program further includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0101] The invention of Claim 88 provides the storage medium according to claim 86 or 87,

wherein the program further includes:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0102] The invention of Claim 89 provides the storage medium according to any one of claims 81 to 88,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0103] The invention of Claim 90 provides a storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost.

[0104] The invention of Claim 91 provides a storage medium that computer-readably stores a program for implementing a billing management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step.

[0105] The invention of Claim 92 provides a storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission

information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0106] The invention of Claim 93 provides a storage medium that computer-readably stores a program for implementing a data management method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost.

[0107] The invention of Claim 94 provides the storage medium according to claim 93,

wherein the program further includes:

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

payment data when supplies used in the information output step are sold is managed based on the property transfer data. [0108] The invention of Claim 95 provides the storage medium according to any one of claims 90 to 94,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0109] The invention of Claim 96 provides a storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost

payment management step, and

the management data is transmitted in the information transmitting step.

[0110] The invention of Claim 97 provides a storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step, and

the charged fee payment data is transmitted in the information transmitting step.

[0111] The invention of Claim 98 provides a storage medium that computer-readably stores a program for implementing an information transmitting method when information communication

is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver, and

the contract data is transmitted in the information transmitting step.

[0112] The invention of Claim 99 provides a storage medium that computer-readably stores a program for implementing an information transmitting method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

the property transfer data is transmitted in the information transmitting step.

[0113] The invention of Claim 100 provides the storage medium according to claim 99,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0114] The invention of Claim 101 provides the storage medium according to any one of claims 96 to 100,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0115] The invention of Claim 102 provides a storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information

output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and

a management data communication step of performing the communication of management data according to the output cost payment management step, and

the management data is received in the information receiving step.

[0116] The invention of Claim 103 provides a storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, and a charging step of charging a fee corresponding to the output cost in the information receiving step,

wherein the program includes:

a charged fee payment data management step of managing data for guaranteeing that the information transmitter who

transmits information in the information transmitting step bears the fee charged in the charging step; and

a charged fee payment data communication step of performing the communication of charged fee payment data according to the charged fee payment data management step, and

the charged fee payment data is received in the information receiving step.

[0117] The invention of Claim 104 provides a storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter.

[0118] The invention of Claim 105 provides a storage medium that computer-readably stores a program for implementing an information receiving method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission

information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and

a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step, and

the property transfer data is received in the information receiving step.

[0119] The invention of Claim 106 provides the storage medium according to claim 105,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0120] The invention of Claim 107 provides the storage medium according to any one of claims 102 to 106,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0121] The invention of Claim 108 provides a storage medium

that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the output cost payment management step.

[0122] The invention of Claim 109 provides a storage medium that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network,

and an information output step of outputting the received transmission information, an output cost being required to output the transmission information,

wherein the program includes:

a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and

an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0123] The invention of Claim 110 provides a storage medium that computer-readably stores a program for implementing an information output control method when information communication is performed by an information communication method including an information transmitting step of transmitting transmission information from an information transmitter to an information receiver, an information receiving step of receiving the transmission information through a network, an information output step of outputting the received transmission information, an output cost being required to output the transmission information, and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when the transfer of property corresponding to the output cost is guaranteed in the property transfer data management step.

[0124] The invention of Claim 111 provides the storage medium according to claim 110,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0125] The invention of Claim 112 provides the storage medium according to any one of claims 108 to 111,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0126] The invention of Claim 113 provides a storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost; and a management

data communication step of performing the communication of the management data according to the output cost payment management step.

[0127] The invention of Claim 114 provides the storage medium according to claim 113,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing that the information transmitter bears the output cost is received in the management data communication step.

[0128] The invention of Claim 115 provides a storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a charging step of charging a fee corresponding to the output cost in the information receiving step; a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step; and a charged fee payment data communication step of performing the communication of charged fee payment data according to the

charged fee payment data management step.

[0129] The invention of Claim 116 provides a storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a verification step of verifying that the transmission information received in the information receiving step is transmitted from a contracted information transmitter; and an output control step of outputting the transmission information in the information output step only when it is verified that the transmission information is transmitted from the information transmitter in the verification step.

[0130] The invention of Claim 117 provides a storage medium that computer-readably stores a program for implementing an information output method including: an information receiving step of receiving transmission information transmitted in an information transmitting step of transmitting the transmission information from an information transmitter to an information receiver through a network; an information output step of outputting the received transmission information, an output cost being required to output the transmission information; a property transfer data management step of managing data for guaranteeing

the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information in the information transmitting step the output cost; and a property transfer data communication step of performing the communication of property transfer data according to the property transfer data management step.

[0131] The invention of Claim 118 provides the storage medium according to claim 117,

wherein the program includes:

an output control step of outputting the transmission information received in the information receiving step in the information output step only when data for guaranteeing the transfer of property corresponding to the output cost is received in the property transfer data communication step.

[0132] The invention of Claim 119 provides the storage medium according to claim 117,

wherein payment data when supplies used in the information output step are sold is managed based on the property transfer data.

[0133] The invention of Claim 120 provides the storage medium according to any one of claims 113 to 119,

wherein, in the information output step, the transmission information is printed on a sheet-shaped recording medium.

[0134] The invention of Claim 121 provides an information communication apparatus comprising:

an information transmitting means that transmits

transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost.

[0135] The invention of Claim 122 provides the information communication apparatus according to claim 121, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the output cost payment management means guarantees that the information transmitter bears the output cost.

[0136] The invention of Claim 123 provides an information communication apparatus comprising:

an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received

transmission information;

a charging means that charges a fee corresponding to the output cost of the information receiving means; and

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means.

[0137] The invention of Claim 124 provides an information communication apparatus comprising:

an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

a contract data management means that manages contract data for limiting a destination of the information transmitted by the information transmitting means to a contracted information receiver.

[0138] The invention of Claim 125 provides the information communication apparatus according to claim 124, further comprising:

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[0139] The invention of Claim 126 provides an information communication apparatus comprising:

an information transmitting means that transmits transmission information from an information transmitter to an information receiver;

an information receiving means that receives the transmission information through a network;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information; and

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost.

[0140] The invention of Claim 127 provides the information communication apparatus according to claim 126, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data management means guarantees the transfer of property corresponding to the output cost.

[0141] The invention of Claim 128 provides the information communication apparatus according to claim 126 or 127, further comprising:

 a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

 wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[0142] The invention of Claim 129 provides the information communication apparatus according to any one of claims 121 to 128,

 wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0143] The invention of Claim 130 provides a data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the data management apparatus comprising:

 an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output

cost.

[0144] The invention of Claim 131 provides a billing management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the data management apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged in the charging means.

[0145] The invention of Claim 132 provides a data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the data management apparatus comprising:

a contract data management means that manages contract

data for limiting a destination of the information transmitted by the information transmitting means to a contracted information receiver.

[0146] The invention of Claim 133 provides a data management apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the data management apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost.

[0147] The invention of Claim 134 provides the data management apparatus according to claim 133, further comprising:

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[0148] The invention of Claim 135 provides the data management

apparatus according to any one of claims 130 to 134,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0149] The invention of Claim 136 provides an information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information transmitting apparatus comprising:

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of management data with the output cost payment management means,

wherein the information transmitting means transmits the management data.

[0150] The invention of Claim 137 provides an information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an

information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the information transmitting apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means,

wherein the information transmitting means transmits the charged fee payment data.

[0151] The invention of Claim 138 provides an information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information transmitting apparatus comprising:

a contract data management means that manages contract data for limiting a destination of the information transmitted

by the information transmitting means to a contracted information receiver,

wherein the information transmitting means transmits the contract data.

[0152] The invention of Claim 139 provides an information transmitting apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information transmitting apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein the information transmitting means transmits the property transfer data.

[0153] The invention of Claim 140 provides the information transmitting apparatus according to claim 139,

wherein payment data when supplies used by the information

output means are sold is managed based on the property transfer data.

[0154] The invention of Claim 141 provides the information transmitting apparatus according to any one of claims 136 to 140,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0155] The invention of Claim 142 provides an information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information receiving apparatus comprising:

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of management data with the output cost payment management means,

wherein the information receiving means receives the management data.

[0156] The invention of Claim 143 provides an information

receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, and a charging means that charges a fee corresponding to the output cost of the information receiving means, the information receiving apparatus comprising:

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means,

wherein the information receiving means receives the charged fee payment data.

[0157] The invention of Claim 144 provides an information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output

cost being required to output the transmission information, the information receiving apparatus comprising:

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter.

[0158] The invention of Claim 145 provides an information receiving apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information receiving apparatus comprising:

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means,

wherein the information receiving means receives the property transfer data.

[0159] The invention of Claim 146 provides the information receiving apparatus according to claim 145,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[0160] The invention of Claim 147 provides the information receiving apparatus according to any one of claims 142 to 146,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0161] The invention of Claim 148 provides an information output control apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, an output cost being required to output the transmission information, and an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost, the information output control apparatus comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the output cost payment management means guarantees the transfer of property corresponding to the output cost.

[0162] The invention of Claim 149 provides an information output control apparatus that performs information communication in

an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, and an information output means that outputs the received transmission information, an output cost being required to output the transmission information, the information output control apparatus comprising:

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[0163] The invention of Claim 150 provides an information output control apparatus that performs information communication in an information communication system including an information transmitting means that transmits transmission information from an information transmitter to an information receiver, an information receiving means that receives the transmission information through a network, an information output means that outputs the received transmission information, an output cost being required to output the transmission information, and a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the

information transmitter who transmits information using the information transmitting means the output cost, the information output control apparatus comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data management means guarantees the transfer of property corresponding to the output cost.

[0164] The invention of Claim 151 provides the information output control apparatus according to claim 150,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[0165] The invention of Claim 152 provides the information output control apparatus according to any one of claims 148 to 151,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0166] The invention of Claim 153 provides an information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output

the transmission information;

an output cost payment management means that manages data for charging the information transmitter who transmits information using the information transmitting means the output cost; and

a management data communication means that performs the communication of the management data with the output cost payment management means.

[0167] The invention of Claim 154 provides the information output apparatus according to claim 153, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the management data communication means receives data for guaranteeing that the information transmitter bears the output cost.

[0168] The invention of Claim 155 provides an information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a charging means that charges a fee corresponding to the output cost of the information receiving means;

a charged fee payment data management means that manages data for guaranteeing that the information transmitter who transmits information using the information transmitting means bears the fee charged by the charging means; and

a charged fee payment data communication means that performs the communication of charged fee payment data with the charged fee payment data management means.

[0169] The invention of Claim 156 provides an information output apparatus comprising:

an information receiving means that receives, through a network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a verification means that verifies that the transmission information received by the information receiving means is transmitted from a contracted information transmitter; and

an output control means that controls the information output means to output the transmission information only when the verification means verifies that the transmission information is transmitted from the information transmitter.

[0170] The invention of Claim 157 provides an information output apparatus comprising:

an information receiving means that receives, through a

network, transmission information transmitted from an information transmitting means transmitting the transmission information from an information transmitter to an information receiver;

an information output means that outputs the received transmission information, an output cost being required to output the transmission information;

a property transfer data management means that manages data for guaranteeing the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information using the information transmitting means the output cost; and

a property transfer data communication means that performs the communication of property transfer data with the property transfer data management means.

[0171] The invention of Claim 158 provides the information output apparatus according to claim 157, further comprising:

an output control means that controls the information output means to output the transmission information received by the information receiving means only when the property transfer data communication means receives data for guaranteeing the transfer of property corresponding to the output cost.

[0172] The invention of Claim 159 provides the information output apparatus according to claim 157,

wherein payment data when supplies used by the information output means are sold is managed based on the property transfer data.

[0173] The invention of Claim 160 provides the information output apparatus according to any one of claims 153 to 159,

wherein the information output means prints the transmission information on a sheet-shaped recording medium.

[0174] The invention of Claim 161 provides an output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network, the method comprising:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of bearing the output cost according to the reference result.

[0175] The invention of Claim 162 provides the output cost payment method according to claim 161,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from

the output cost payment management means through a network, thereby performing payment for the supplies.

[0176] The invention of Claim 163 provides the output cost payment method according to claim 161 or 162,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[0177] The invention of Claim 164 provides a program product for implementing an output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network, the program product comprising:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of bearing the output cost according to the reference result.

[0178] The invention of Claim 165 provides the program product according to claim 164,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from the output cost payment management means through a network, thereby performing payment for the supplies.

[0179] The invention of Claim 166 provides the program product according to claim 164 or 165,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[0180] The invention of Claim 167 provides a storage medium that computer-readably stores a program for implementing an output cost payment method that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network,

wherein the program includes:

an order receiving step of receiving a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference step of referring to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits information the output cost; and

a payment step of paying the output cost according to the

reference result.

[0181] The invention of Claim 168 provides the storage medium according to claim 167,

wherein the payment step includes:

checking the balance of the referred property transfer data; and

receiving the money for the supplies of the balance from the output cost payment management means through a network, thereby performing payment for the supplies.

[0182] The invention of Claim 169 provides the storage medium according to claim 167 or 168,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[0183] The invention of Claim 170 provides an output cost payment apparatus that guarantees an output cost required when an information receiver uses an information output means to output transmission information transmitted from an information transmitter through a network, the apparatus comprising:

an order receiving means that receives a request to purchase supplies used for the information receiver to output the transmission information using the information output means from the information receiver through the network;

a reference means that refers to, through the network, property transfer data that is managed by an output cost payment management means and guarantees the transfer of property corresponding to the output cost to the information receiver in order to charge the information transmitter who transmits

information the output cost; and

a payment means that pays the output cost according to the reference result.

[0184] The invention of Claim 171 provides the output cost payment apparatus according to claim 170,

wherein the payment means checks the balance of the referred property transfer data, and receives the money for the supplies of the balance from the output cost payment management means through a network, thereby performing payment for the supplies.

[0185] The invention of Claim 172 provides the output cost payment apparatus according to claim 170 or 171,

wherein the supplies include a sheet-shaped recording medium and/or ink.

[0186]

[Embodiments] Hereinafter, exemplary embodiments of the present invention will be described in detail with reference to the accompanying drawings.

[0187] (First embodiment) An information communication method according to a first embodiment includes: an information transmitting step of transmitting transmission information from an information transmitter to an information receiver; an information receiving step of receiving, through a network, the transmission information transmitted in the information transmitting step; an information output step of outputting the transmission information received in the information receiving step, an output cost being required to output the transmission

information; and a property transfer data management step of managing data for guaranteeing the transfer of property corresponding to the output cost to the information receiver who outputs information transmitted from the information transmitter in the information output step, in order to charge the information transmitter who transmits information in the information transmitting step the output cost. The first embodiment will be described below.

[0188] Fig. 1 is a diagram illustrating the structure of an information communication system that executes the information communication method according to the first embodiment of the present invention.

[0189] In Fig. 1, reference numeral 101 denotes an information transmitting computer used for an information transmitter to transmit information. Reference numeral 102 denotes an information receiving computer that receives the information transmitted by the information transmitting computer 101. Reference numeral 103 denotes a printer that prints the information received by the receiving computer 102 on a sheet. The information receiving computer 102 and the printer 103 are connected to each other by a parallel cable.

[0190] The computers 101, 102, and 104, and the printer 103 have well known structures each having, for example, a CPU, a RAM, a ROM, and an auxiliary storage device. The computers and the printer execute the above-mentioned processes or the following means in a software manner according to program codes that are loaded from various storage media, which will be

described below, to the RAM, thereby implementing the present invention. Other systems, which will be described below, may also the same structure as described above, and implement other embodiments of the present invention.

[0191] A payment recording computer 104 records the money paid from an information transmitter who transmits information using the information transmitting computer 101 to an information receiver who uses the information receiving computer 102 to receive the information, uses the printer 103 to print the information on a sheet, and bears the running costs, in order to bear the running costs corresponding to ink or paper required to print the information transmitted from the information transmitting computer 101 to the information receiving computer 102 using the printer 103.

[0192] Reference numeral 105 denotes the Internet for data communication among the information transmitting computer 101, the information receiving computer 102, and the payment recording computer 104. The number of components of the same type connected to the Internet 105 is not limited to one, but a plurality of components of the same type may be connected to the Internet in Fig. 1.

[0193] Fig. 2 is a functional block diagram illustrating an information transmitting apparatus implemented by the information transmitting computer 101.

[0194] In Fig. 2, a receiving computer address storage unit 201 stores address data of the information receiving computer 102, which is a destination of the information transmitted from

the information transmitting computer 101. The information transmitting computer 101 according to this embodiment uses a so-called IP address. A receiver ID storage unit 202 stores receiver IDs. The receiver ID is for identifying an information receiver who uses an information receiving computer indicated by the address stored in the receiving computer address storage unit 201 to receive information. In this embodiment, an integer having a sufficient number of digits is used for the receiver ID.

[0195] Reference numeral 203 denotes a transmission information data storage unit that stores data for information to be transmitted to the receiver having the receiver ID stored in the receiver ID storage unit 202. In this embodiment, transmission information data is described by a page description language that describes data output from the printer in the unit of pages. As the page description language, LIPS or PostScript has been known.

[0196] When the transmission information data stored in the transmission information data storage unit 203 is transmitted to a receiver having the receiver ID stored in the receiver ID storage unit 202, a payment guarantee data acquiring unit 204 transmits to the payment recording computer 104 payment reservation data for making a reservation to pay the receiver the money required to output the transmission information, and acquires payment guarantee data that guarantees the content of the reservation from the reservation payment recording computer 104.

[0197] A transmission data transmitting unit 205 adds the payment guarantee data acquired by the payment guarantee data acquiring unit 204 to the transmission information data stored in the transmission information data storage unit 203, and transmits the added data to a receiving computer having the address stored in the receiving computer address storage unit 201.

[0198] A communication unit 206 performs communication between the payment guarantee data acquiring unit 204 and the payment recording computer 104 and communication between the transmission data transmitting unit 205 and the information receiving computer 102. In this embodiment, the communication unit 206 transmits a connection request to a predetermined port of an opponent computer, performs communication according to a predetermined protocol, and cuts off the communication.

[0199] Fig. 3 is a functional block diagram illustrating an information receiving apparatus implemented by the information receiving computer 102.

[0200] In Fig. 3, reference numeral 301 denotes a communication unit that performs communication between the information transmitting computer 101 and the payment recording computer 104. Reference numeral 302 denotes a transmission data storage unit that stores transmission data received by the communication unit 301 from the information transmitting computer 101.

[0201] When new transmission data is stored in the transmission data storage unit 302, a payment confirmation unit 303 checks whether the payment process is performed, and transmits payment

confirmation request data for confirming the payment to the payment recording computer 104 when the payment process is performed. In addition, the payment confirmation unit 303 receives from the payment recording computer 104 payment confirmation data indicating that the payment is confirmed. When payment confirmation unit 303 confirms the payment, an output data transmitting unit 304 transmits transmission information data to the printer 103 so as to output transmission information data of the transmission data stored in the transmission data storage unit 302.

[0202] Fig. 4 is a functional block diagram illustrating a property transfer management apparatus implemented by the payment recording computer 104.

[0203] In Fig. 4, reference numeral 401 denotes a communication unit that performs communication between the information transmitting computer 101 and the information communication computer 102. Reference numeral 402 denotes a payment reservation unit that performs a payment reservation process and returns payment guarantee data when the communication unit 401 receives the payment reservation data from the information transmitting computer 101. Reference numeral 403 denotes a payment reservation data storage unit that stores the payment reservation data processed by the payment reservation unit 402.

[0204] When the communication unit 401 receives the payment confirmation request data from the information receiving computer 102, a payment confirmation unit 404 checks whether payment is valid based on the payment reservation data stored

in the payment reservation data storage unit 403, performs a confirmation process, and returns the payment confirmation data.

[0205] Reference numeral 405 denotes a transmitter payment amount data storage unit that stores payment amount data for each transmitter obtained by the payment confirmation process of the payment confirmation unit 404. The transmitter payment amount data storage unit 405 stores a plurality of integer data indicating the amount of payment. Each of the data is referred to by the transmitter ID of a transmitter who bears the amount of money.

[0206] Reference numeral 406 denotes a receiver acquisition cost data storage unit that stores acquisition cost data for each receiver obtained by the payment confirmation process of the payment confirmation unit 404. The receiver acquisition cost data storage unit 406 stores integer data indicating an acquisition cost. Each of the data is referred to by the receiver ID of a receiver who obtains the acquisition cost.

[0207] Next, referring to Fig. 5, a description will be made of data communication among the information transmitting computer 101, the information receiving computer 102, and the payment recording computer 104 and the main processes performed by the computers according to this embodiment in order to implement a function of allowing a transmitter to bear the output cost of the printer, which is the characteristics of an information communication method according to the present invention.

[0208] First, when it is necessary to transmit information from

the information transmitting computer 101 to the information receiving computer 102, the information transmitting computer 101 transmits payment reservation data to the payment recording computer 104 (501). This process is performed by a TCP/IP protocol as follows. First, the information transmitting computer 101 outputs a request for connection through a port of a predetermined port number to the payment recording computer 104 to establish connection. Then, the information transmitting computer 101 transmits a data packet including the payment reservation data using the established connection.

[0209] Fig. 6 is a diagram illustrating an example of the data packet including the payment reservation data.

[0210] In Fig. 6, reference numeral 601 denotes a header section including various headers required for data communication. Reference numeral 602 denotes a transmitter ID section, and the transmitter ID section 602 includes transmitter ID data identifying an information transmitter who uses the information transmitting computer 101 to transmit information. Reference numeral 603 denotes a receiver ID section, and the receiver ID section 603 includes receiver ID data identifying an information receiver who uses the information receiving computer 102 to receive information.

[0211] Reference numeral 604 denotes a payment amount section, and the payment amount section 604 includes payment amount data indicating the amount of money paid from the transmitter having the transmitter ID included in the transmitter ID section 602 to the receiver having the receiver ID included in the receiver

ID section 603.

[0212] In this embodiment, the transmitter ID section 602 and the receiver ID section 603 have a length that is equal to the length of a character string of a predetermined ID, and each character string has data encoded by ASCII codes. The payment amount data storage unit 604 stores the amount of payment in Yen (Japanese currency) as 4-byte integer data. The same data format as described above is used in the following processes, and thus a detailed description of the data format will be omitted.

[0213] The transmitter ID data is the unique ID of the information transmitting computer, and the same ID data is used all the times. As the receiver ID data, the receiver ID data stored in the receiver ID storage unit 202 of the information transmitting computer 101 is used. A value obtained by multiplying the number of pages on which the transmission information stored in the transmission information data storage unit 203 of the information transmitting computer 101 is printed out by a predetermined value is used as the payment amount data. Returning to Fig. 5, when the payment recording computer 104 receives payment reservation data, a payment reservation process is performed. First, a payment guarantee ID capable of uniquely discriminating the received payment reservation from other payment reservations is generated. In this embodiment, an integer that is increased by 1 when the payment recording computer 104 starts recording is used as the payment guarantee ID.

[0214] Then, a data record obtained by adding the transmitter ID data, the receiver ID data, and the payment amount data

respectively included in the transmitter ID section 602, the receiver ID section 603, and the payment amount section 604 of the payment reservation data to the generated payment guarantee ID is newly stored in the payment reservation data storage unit 403. The payment reservation data storage unit 403 includes a plurality of data records, and has a data structure that searches records using the payment guarantee ID data as an index.

[0215] Fig. 7 is a diagram illustrating an example of the payment reservation data storage unit.

[0216] In Fig. 7, each row indicates a data record, and each data record is individual payment reservation data. Each data record includes four fields 701 to 704. Reference numeral 701 indicates a payment guarantee ID field having payment guarantee ID data therein, reference numeral 702 is a transmitter ID field having transmitter ID data therein, reference numeral 703 is a receiver ID field having receiver ID data therein, and reference numeral 704 is a payment amount field having payment amount data therein.

[0217] In this way, when each of the data included in the payment guarantee ID data and the payment reservation data is stored as one data record in the payment reservation data storage unit 403, the payment guarantee data is transmitted to the information transmitting computer 101 (502). In this embodiment, the connection established when the payment reservation data is transmitted (501) is used to transmit a data packet including the payment guarantee data.

[0218] Fig. 8 is a diagram illustrating an example of the data

packet including the payment guarantee data. In Fig. 8, reference numeral 801 indicates a header section including various headers required for data communication. Reference numeral 802 indicates a payment guarantee ID section including the payment guarantee ID data. When the data packet shown in Fig. 8 is transmitted, the payment recording computer cuts off the connection.

[0219] Then, when the information transmitting computer 101 receives the payment guarantee ID data, it transmits the received payment guarantee ID data and the transmission information data stored in the transmission information data storage unit 203 to an information receiving computer having the address stored in the receiving data computer address storage unit 201 (503). In this embodiment, connection to the information receiving computer is established by the same process as that of transmitting the payment reservation data (501). Then, a data packet including the transmission data is transmitted.

[0220] Fig. 9 is a diagram illustrating an example of the data packet including the transmission data. In Fig. 9, reference numeral 901 denotes a header section including various headers required for data communication. Reference numeral 902 denotes a payment guarantee ID section including payment guarantee ID data. Reference numeral 903 denotes a transmission information section including transmission information data. When the information receiving computer 102 receives all data of the packet, the connection is cut off.

[0221] Then, when the information receiving computer 102

receives transmission data, it stores the received transmission data in the transmission data storage unit 302, and performs a payment confirmation process. First, the information receiving computer extracts the payment guarantee ID data from the transmission data, and transmits payment confirmation request data including the payment guarantee ID data to the payment recording computer 104 (504). A process of establishing communication is the same as described above, and a description thereof will be omitted.

[0222] Fig. 10 is a diagram illustrating an example of the data packet including the payment confirmation request data. In Fig. 10, reference numeral 1001 denotes a header section including various headers required for data communication. Reference numeral 1002 denotes a payment guarantee ID section including the payment guarantee ID data. Reference numeral 1003 denotes a receiver ID section that includes the receiver ID of a receiver who uses the information receiving computer 102 to receive information. As the payment guarantee ID, a payment guarantee ID included in the transmission data transmitted from the information transmitting computer 101 is used. As the receiver ID, the unique receiver ID of the information receiving computer 101 is used.

[0223] Then, when the payment recording computer 104 receives the payment confirmation request data, it performs a payment confirmation process. First, the payment recording computer extracts a data record having matched payment guarantee ID data from the data records stored in the payment reservation data

storage unit 403, using the payment guarantee ID included in the payment confirmation request data as a key. When there is no data record, payment confirmation data indicating that payment is not performed is transmitted as a reply (505).

[0224] Fig. 11 is a diagram illustrating an example of the data packet including the payment confirmation data indicating that payment is not performed.

[0225] In Fig. 11, reference numeral 1101 denotes a header section including various headers required for data communication. Reference numeral 1102 denotes a payment condition section including a character string indicating payment conditions. When it is difficult to perform payment, data indicating a character string NG is written in the payment condition section 1102.

[0226] When the data record having a matched payment guarantee ID is extracted, the value in the receiver ID field 703 is compared with the value in the receiver ID section 1003 of the payment confirmation request data. When these values are not matched with each other, the data packet shown in Fig. 11 is transmitted to the information receiving computer 102 (505).

[0227] When these values are matched with each other, the transmitter payment amount data storage unit 405 and the receiver acquisition cost data storage unit 406 are updated. First, the payment amount, which is the value in the payment amount field 704, is added with reference to transmitter payment amount data indicated by the transmitter ID in the transmitter ID field 702 of the extracted data record.

[0228] Then, similarly, the payment amount is added with reference to receiver acquisition cost data indicated by the receiver ID in the receiver ID field 703. Then, the data record is deleted from the payment reservation data storage unit 403. In addition, payment confirmation data indicating that payment has been confirmed is transmitted to the information receiving computer 102 (505).

[0229] Fig. 12 is a diagram illustrating the payment confirmation data. The configuration of the data is the same as that of the data packet shown in Fig. 11, but the value in a payment condition section 1202 is OK.

[0230] When the payment confirmation data is transmitted to the information receiving computer, the payment recording computer 104 cuts off the connection.

[0231] Then, when the information receiving computer 102 receives the payment confirmation data and the value in the payment condition section 1102 of the payment confirmation data is NG, the process ends. When the value in the payment condition section 1202 is OK, the transmission information data of the transmission data stored in the transmission data storage unit 302 is transmitted to the printer 103 through a parallel interface (506). The printer 103 prints out the transmission information on a sheet based on the received transmission information data.

[0232] Next, among the processes implemented by the above-mentioned computers, the process of the information transmitting computer will be described with reference to Fig. 13. Since the processes of the payment recording computer 104

and the information receiving computer 102 have been described in the flow of data shown in Fig. 5, only the process of the information transmitting computer will be described below.

[0233] The information transmitting computer 101 according to this embodiment can transmit various types of information. Here, a process of transmitting transmission information to all the receivers who have already been registered will be described.

[0234] For example, a product seller is an information transmitter, all product users that have been registered are information receivers, and after-sale service information is transmitted from the information transmitter to the information receiver. When the receiver ID or the address of the information receiving computer 102 is registered during the user registration, it is possible to store data for the receiver ID and the address in advance. The registered receiver ID and information receiving computer address are stored as files.

[0235] Further, this process starts when the information transmitting computer 101 executes a specific command. Before the process starts, an authoring tool of the same computer or another computer is used to create transmission information data and the created transmission information data is stored as a file. Then, the file is designated with the argument of the command.

[0236] First, in Step S1301, transmission information data is read out from the file designated by the command argument and then stored in the transmission information data storage unit 203. Then, the process proceeds to Step S1302.

[0237] In Step S1302, it is checked whether there is receiver information that has not been read out from the file. When it is determined that there is receiver information that has not been read out from the file, the process proceeds to Step S1303. When it is determined that all receiver information has been read out from the file, the process ends.

[0238] In Step S1303, receiver information is read out from the file. Then, the receiver ID is stored in the receiver ID storage unit 202, and the address of the information receiving computer is stored in the information receiving computer address storage unit 201. Then, the process proceeds to Step S1304.

[0239] In Step S1304, payment reservation data is created, and the payment reservation data is transmitted to the payment recording computer 104. This process has been described in detail with reference to Fig. 5. Then, the process proceeds to Step S1305.

[0240] In Step S1305, payment guarantee data is received from the payment recording computer 104. Then, the process proceeds to Step S1306.

[0241] In Step S1306, transmission data is created from payment guarantee ID data of the payment guarantee data received in Step S1305 and the transmission information data stored in the transmission information data storage unit 203, and the transmission data is transmitted to the information receiving computer 102 having the address stored in the receiving computer address storage unit 201. This process has been described in detail with reference to Fig. 5. When the transmission data

is transmitted, the process returns to Step S1302.

[0242] In this way, it is possible to compensate all the registered receivers for the output cost of printing the transmission information with the printer 103 and transmit information.

[0243] An information communication method of transmitting data for bearing the output cost of printing information with the printer from the information transmitter to the information receiver has been described above. However, actually, in order to compensate the receiver for the output cost, it is necessary to settle the payment amount of the transmitter recorded in the payment recording computer and the acquisition cost of the receiver. In this case, any payment method may be used. For example, when a third party other than the transmitter and the receiver operates the payment recording computer, the third party periodically collects the payment from the transmitter. The payment may be performed by any method, for example, payment in cash, payment into the bank, or payment by a promissory note.

[0244] When the payment is performed, the payment amount of the transmitter stored in the transmitter payment amount data storage unit is reduced by the settled payment amount.

Alternatively, first, the transmitter may bear the third party the output cost, and the payment amount of the transmitter stored in the transmitter payment amount data storage unit may be reduced in advance. That is, a minus payment amount is stored. In this case, when the payment reservation data is transmitted, the payment is confirmed, and the payment amount is changed to a

plus value, the payment reservation data may not be received and the payment guarantee data may not be transmitted.

[0245] When the receiver requests the payment for the acquisition cost, the money corresponding to the acquisition cost of the receiver stored in the receiver acquisition cost data storage unit 406 is paid. The payment may be performed by any method, for example, payment in cash or payment into the bank.

[0246] In this case, there may be restrictions in operation. For example, it is difficult to request the payment if the acquisition cost is smaller than a predetermined, or if a predetermined period of time has not been elapsed. In addition, a fee may be added to the payment amount.

[0247] As described above, according to the information communication method of this embodiment, the transmitter can compensate the receiver for the output cost required to print out the transmission information. In addition, since the compensation is performed before the information is output, it is possible to stop the output of the transmission information when the compensation is not performed. It is possible to prevent the receiver from printing out the transmission information without the compensation of the output cost. Therefore, it is possible to perform information communication on the premise that the transmitter bears the output cost. When it is appropriate to use the printer to print out information on a sheet, it is possible to promote an information transmitting method in which the transmitter bears the output cost, which

is a socially accepted idea.

[0248] [Modification] In the above-described embodiment, the information transmitter bears the information receiver the information output cost required for the information output process using the communication of the payment reservation data, the payment guarantee data, the payment confirmation request data, and the payment confirmation data, but the present invention is not limited thereto. The payment for the output cost may be implemented by other data communication methods. Here, other data communication methods according to other embodiments will be described.

[0249] Fig. 14 is a diagram illustrating data communication among the information transmitting computer 101, the information receiving computer 102, and the payment recording computer 104 according to a modification of the embodiment. The flow of data in the modification will be described with reference to Fig. 14. A method of establishing connection for data communication and the configuration of a data packet are the same as those in the above-described embodiment, and thus a description thereof will be omitted.

[0250] First, when it is necessary to transmit information from the information transmitting computer 101 to the information receiving computer 102, the information transmitting computer 101 generates a unique payment guarantee ID. Then, the number of pages on which the transmission information stored in the transmission information data storage unit 203 is printed out is multiplied by a predetermined value to calculate a payment

amount. In addition, a payment reservation data record including the payment amount data, the payment guarantee ID data, and the receiver ID data stored in the receiver ID storage unit 202 is stored. The information transmitting computer 101 according to this embodiment includes a payment reservation data storage unit (not shown) that stores the payment reservation data record. The payment reservation data storage unit has a data structure that searches records using the payment guarantee ID data as an index. Then, transmission data including the transmitter ID data, the payment guarantee ID data, and the transmission information data is created, and the transmission data is transmitted to the information receiving computer 102 (1401).

[0251] Then, when the information receiving computer 102 receives the transmission data, it stores the received transmission data in the transmission data storage unit 302 and performs a payment confirmation process. First, the information receiving computer extracts payment guarantee ID data and transmitter ID data included in the transmission data, and transmits to the payment recording computer 104 payment confirmation request data including the payment guarantee ID data, the transmitter ID data, and its own receiver ID data (1402).

[0252] Then, when the payment recording computer 104 receives the payment confirmation request data, it transmits payment reservation confirmation data to the information transmitting computer 101 having the transmitter ID included in the payment confirmation request data (1403). The transmitter ID and the

corresponding data of the information transmitting computer 101 have already been stored in the payment recording computer 104. The payment reservation confirmation data includes payment guarantee ID data and a receiver ID.

[0253] Then, when the information transmitting computer 101 receives the payment reservation confirmation data, it performs the next process.

[0254] First, the information transmitting computer extracts a data record having matched payment guarantee ID data from the data records stored in the payment reservation data storage unit, using the payment guarantee ID included in the payment confirmation request data as a key. When there is no data record, payment confirmation data indicating that payment is not performed is transmitted as a reply (1404). When the data record having the matched payment guarantee ID is extracted, the value in the receiver ID field 703 is compared with that value in the receiver ID section of the payment reservation confirmation data. When the values are not matched with each other, payment approval data indicating that payment is not performed is transmitted (1404). When the values are matched with each other, payment approval data that indicates payment approval and includes payment amount data is transmitted as a replay (1404).

[0255] Then, when the payment recording computer 104 receives the payment approval data, it performs the next process. When the payment approval data indicates that the payment is not performed, the payment recording computer transmits payment confirmation data (which is the same as that in Fig. 11) indicating

that payment is not performed to the information receiving computer 102 (1405).

[0256] When the payment approval data indicates the payment approval, the payment recording computer updates the transmitter payment amount data storage unit 405 and the receiver acquisition cost data storage unit 406 using the payment amount data included in the payment approval data, and the transmitter ID data and the receiver ID data included in the previously received payment reservation confirmation data. First, the value of the payment amount data is added with reference to the transmitter payment amount data indicated by the transmitter ID. Then, similarly, a payment amount is added with reference to the receiver acquisition cost data indicated by the receiver ID. Then, payment confirmation data (which is the same as that in Fig. 12) indicating that payment is established is transmitted to the information receiving computer (1405).

[0257] Then, when the information receiving computer 102 receives the payment confirmation data and the value in the payment condition section of the payment confirmation data is NG, the process ends. When the value in the payment condition section is OK, the information receiving computer transmits the transmission information data of the transmission data stored in the transmission data storage unit 302 to the printer 103 through a parallel interface (1406). The printer 103 prints out the transmission information on a sheet based on the received transmission information data.

[0258] In this modification, the transmitted data and the

processes of the computers are different from those in the above-described embodiment. However, similar to the above-described embodiment, it is possible to implement an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process using data communication.

[0259] [Another modification] This modification implements an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process using data communication different from that in the above-described embodiment.

[0260] Fig. 15 is a diagram illustrating the flow of data communication among the information transmitting computer 101, the information receiving computer 102, and the payment recording computer 104 according to this modification. The flow of data in this modification will be described with reference to Fig. 15. A method of establishing connection for data communication and the configuration of a data packet are the same as those in the above-described embodiment, and thus a description thereof will be omitted.

[0261] First, when it is necessary to transmit information from the information transmitting computer 101 to the information receiving computer 102, the information transmitting computer 101 generates a unique payment promise ID. Then, the number of pages on which the transmission information stored in the

transmission information data storage unit 203 is printed out is multiplied by a predetermined value to calculate a payment amount. The, payment promise data including payment promise IDdata, transmitter IDdata, receiver IDdata, and payment amount ID data is transmitted to the payment recording computer 104 (1501).

[0262] When the payment recording computer 104 receives the payment promise data, first, it stores the payment promise data. In order to store the payment promise data, the payment recording computer 104 according to this embodiment includes a payment promise data storage unit (not shown). The payment promise data storage unit stores a plurality of data records corresponding to the payment promise data, and has a function of searching the payment promise data using a payment promise ID as an index.

[0263] The value of payment amount data is added to a transmitter payment amount with reference to the transmitter payment amount data indicated by the transmitter ID. Then, a payment guarantee secret key is used to create signature data for the payment promise data. Then, the signature data is transmitted to the information transmitting computer 101 (1502). The payment guarantee secret key is generated together with a payment guarantee public key in advance. Data for the keys is created by a so-called public key encoding scheme, and various methods of implementing this encoding scheme have been known. Therefore, a detailed description thereof will be omitted.

[0264] Then, when the information transmitting computer 101 receives the signature data, the information transmitting

computer 101 creates transmission data including the payment promise data, the signature data, and the transmission information data, and transmits the transmission data to the information receiving computer 102 (1503).

[0265] When the information receiving computer 102 receives the transmission data, it stores the received transmission data in the transmission data storage unit 302, and performs a payment confirmation process. First, the information receiving computer extracts the payment promise data and the signature data from the transmission data, and uses the public key of the payment guarantee public key data received from the payment recording computer 104 to verify whether a signature of the signature data is valid for the payment promise data. When the signature is correct and the payment promise data is valid, the information receiving computer stores the payment promise data and the signature data. In order to store the data, the information receiving computer according to this embodiment includes an acquired promise data storage unit (not shown).

[0266] The acquired promise data storage unit has a function of storing a plurality of data records each including the payment promise data and the signature data. Then, the information receiving computer transmits the transmission information data of the transmission data stored in the transmission data storage unit 302 to the printer 103 through a parallel interface (1504). The printer 103 prints out the transmission information on a sheet based on the received transmission information data.

[0267] Thereafter, data communication in Steps 1501 to 1504

is performed for each information communication.

[0268] When a predetermined amount of data is stored in the acquired promise data storage unit of the information receiving computer 102, the information receiving computer 102 transmits acquired promise notification data including all the payment promise data stored in the acquired promise data storage unit to the payment recording computer 104 (1505). Then, the information receiving computer deletes all the data stored in the acquired promise data storage unit.

[0269] When the payment recording computer 104 receives the acquired promise notification data, it verifies whether the payment promise data included in the acquired promise notification data is stored in the payment promise data storage unit. When the payment promise data is stored in the payment promise data storage unit, the value of the payment amount data is added to a payment amount with reference to receiver payment amount data indicated by the receiver ID of the payment promise data.

[0270] In this modification, the transmitted data and the processes of the computers are different from those in the above-described embodiment. However, similar to the above-described embodiment, it is possible to implement an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process using data communication.

[0271] [Another modification] In the above-described

embodiment, when a predetermined amount of data is stored, the information receiving computer notifies the acquired payment promise data to the payment recording computer, but the present invention is not limited thereto. For example, the information receiving computer may notify the acquired payment promise data to the payment recording computer at a predetermined time interval or when the acquisition cost reaches a predetermined value. In addition, the notification and payment may be performed at the same time. That is, the payment recording computer may not include the receiver acquisition cost data storage unit, and may perform payment immediately after receiving the notification data.

[0272] [Another modification] The above-described embodiment and the three modifications implement the flow of data and data processing in an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process. However, the present invention may be applied to various embodiments related to a data flow for implementing so-called electronic money and data processing. The present invention applies the data flow and the data processing to implement an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process, but the present invention does not limit the data flow and the data processing.

[0273] [Another modification] The above-described

embodiment does not provide a process or a means for security against data interception between the communication parties or by a third party, falsification, and identity thief. The reason is that the required security levels are different from each other in terms of, for example, compensation payment and the contractual relationship or the reliability relationship between an information transmitter and an information receiver and a process or means for security is not an essential component of the present invention. However, in many cases, the process or means for security is needed, and it is preferable to provide the process or means for security. Therefore, other modifications including the process or means for security will be described below.

[0274] According to a modification, all communication data may be encoded in order to prevent data interception by a third party.

[0275] [Another modification] In addition to an electronic signature for payment guarantee, electronic signature data may be added to communication data, in order to prevent falsification and identity thief.

[0276] [Another modification] In order to prevent a transmitter from posing as a receiver to bear an acquisition cost, the payment recording computer 104 may include a correspondence storage means that stores a correspondence between ID data for a receiver ID used during payment and ID data for a receiver ID used during information communication. In this case, the receiver IDs are different from each other.

[0277] [Another modification] A process or means that prevents

the leakage of various data, particularly, secret key data, and periodically changes the transmitter ID or the receiver ID may be provided. Alternatively, a password may be attached to the ID and a process or means that changes the password may be provided.

[0278] [Another modification] In the above-described modifications, the same secret key and public key are used, but the transmitter uses a plurality of different keys for the receiver.

[0279] [Another modification] In the above-described embodiment, the information receiver does not include a means that checks the acquisition cost acquired when the information is output or the cumulative amount of the acquisition costs. However, the means is not an essential component of the present invention, but it is preferable to provide the means. When the process or means is provided, a process or means that receives data from the payment recording computer 104 may be additionally provided.

[0280] [Another modification] In the above-described embodiment, no expiration date is set to each of the data. However, it is preferable that a process or means having an expiration date be provided to perform data communication. For example, expiration date data may be added to the payment reservation data, and the payment recording computer 104 may perform a process of deleting the expired data record among the data records stored in the payment reservation data storage unit 403.

[0281] [Another modification] In the above-described

embodiment, it is premised that the third party other than the transmitter and the receiver manages the transfer of property, but the present invention is not limited thereto. For example, the transmitter may manage the transfer of property.

[0282] In this case, a portion of the data processing or the flow of data in the above-described embodiment may be omitted. Alternatively, another data flow or data processing may be performed.

[0283] Next, a modified configuration of the embodiment described with reference to Fig. 15 will be described.

[0284] Fig. 16 is a diagram illustrating the structure of a system in which the information transmitting computer also manages the transfer of property.

[0285] In Fig. 16, reference numeral 1601 denotes an information receiving computer used for an information receiver to receive transmitted information. Reference numeral 1602 denotes a printer that prints out the information received by the information receiving computer 1601 on a sheet. The information receiving computer 1601 and the printer 1602 are connected to each other by a parallel cable.

[0286] Reference numeral 1603 denotes an information transmitting/recording computer. The information transmitting/recording computer 1603 records the money paid from an information transmitter who transmits information to the information receiving computer 1603 to an information receiver who uses the information receiving computer 1601 to receive the information from the information transmitting computer 1603,

in order to compensate the information receiver for the running costs corresponding to ink or paper required to print the information transmitted from the information transmitter using the printer 1602.

[0287] Reference numeral 1604 denotes the Internet for data communication between the information receiving computer 1601 and the information transmitting/recording computer 1603.

[0288] Fig. 17 is a diagram illustrating data communication between the information receiving computer 1601 and the information transmitting/recording computer 1603 according to this modification. The flow of data according to this modification will be described with reference to Fig. 17. A method of establishing connection for data communication and the configuration of a data packet are the same as those in the above-described embodiment, and thus a description thereof will be omitted.

[0289] First, when it is necessary to transmit information from the information transmitting/recording computer 1603 to the information receiving computer 1601, the information transmitting/recording computer 1603 generates a unique payment promise ID. Then, the number of pages on which the transmission information stored in the transmission information data storage unit 203 is printed out is multiplied by a predetermined value to calculate a payment amount. Then, the information transmitting/recording computer creates payment promise data including payment promise ID data, transmitter ID data, receiver ID data, and payment amount ID data, and then stores the payment

promise data.

[0290] In order to store the payment promise data, the information transmitting/recording computer 1603 according to this modification includes a payment promise data storage unit (not shown). The payment promise data storage unit stores a plurality of data records corresponding to the payment promise data, and has a function of searching the payment promise data using a payment promise ID as an index. The information transmitting/recording computer 1603 may have the same structure as that shown in Figs. 3 and 4.

[0291] Then, a payment guarantee secret key is used to create signature data for the payment promise data. The payment guarantee secret key is generated together with a payment guarantee public key in advance. Data for the keys is created by a so-called public key encoding scheme, and various methods of implementing this encoding scheme have been known. Therefore, a detailed description thereof will be omitted.

[0292] Then, the information transmitting/recording computer creates transmission data including the payment promise data, the signature data, and transmission information data, and transmits the transmission data to the information receiving computer (1701).

[0293] When the information receiving computer 1601 receives the transmission data, it stores the received transmission data in the transmission data storage unit 302, and performs a payment confirmation process. First, the information receiving computer extracts the payment promise data and the signature

data from the transmission data, and uses the public key of the payment guarantee public key data received from the information transmitting/recording computer 1603 to verify whether a signature of the signature data is valid for the payment promise data. When the signature is correct and the payment promise data is valid, the information receiving computer stores the payment promise data and the signature data. In order to store the data, the information receiving computer according to this modification includes an acquired promise data storage unit (not shown).

[0294] The acquired promise data storage unit has a function of storing a plurality of data records each including the payment promise data and the signature data. Then, the information receiving computer transmits the transmission information data of the transmission data stored in the transmission data storage unit 302 to the printer 1602 through a parallel interface (1702). The printer 1602 prints out the transmission information on a sheet based on the received transmission information data.

[0295] Thereafter, data communication in Steps 1701 and 1702 is performed for each information communication.

[0296] When a predetermined amount of data is stored in the acquired promise data storage unit of the information receiving computer 1601, the information receiving computer 1601 transmits acquired promise notification data including all the payment promise data stored in the acquired promise data storage unit to the information transmitting/recording computer 1603 (1703). Then, the information receiving computer deletes all the data

stored in the acquired promise data storage unit.

[0297] When the information transmitting/recording computer 1603 receives payment request data, it verifies whether the payment promise data included in the payment request data is stored in the payment promise data storage unit, and outputs the verification result.

[0298] A payment method according to the verification result depends on the usage of the information transmitting/recording computer 1603 according to this modification. For example, the payment method may include payment in cash and payment into the bank.

[0299] In this modification, it is also possible to implement an information communication method enabling an information transmitter to compensate an information receiver for the information output cost required for an information output process using data communication.

[0300] [Another modification] In the above-described embodiment, the information transmitter uses the information transmitting computer to directly transmit information to the information receiving computer of the information receiver, but an intermediary may be interposed between the information transmitter and the information receiver. In this case, the information intermediary plays the same role as that of the information transmitter or the information receiver in the above-described embodiment. That is, an information intermediary computer used by the information intermediary serves as the information transmitting computer or the

information receiving computer in the related art. From this viewpoint, only a new apparatus is added to the information communication system according to the related art.

[0301] Next, an example in which the information intermediary computer plays the same role as that of the information transmitting computer according to the related art will be described.

[0302] Fig. 18 is a diagram illustrating the structure of an information communication system implementing an information communication method according to the present invention.

[0303] In Fig. 18, reference numeral 1801 denotes an information transmission request computer used for an information transmitter to request the information intermediary to transmit information. Reference numeral 1802 denotes an information intermediary computer that receives the request from the information transmission request computer 1801 and transmits the requested information. Reference numeral 1803 denotes an information receiving computer that receives the information transmitted from the information intermediary computer 1802. Reference numeral 1804 denotes a printer that prints out the information received by the information receiving computer 1803 on a sheet. The information receiving computer 1803 and the printer 1804 are connected to each other by a parallel cable.

[0304] Reference numeral 1805 denotes a payment recording computer. The payment recording computer 1805 records the money paid from a person who transmits information using the information intermediary computer 1802 to a person who uses the

printer 1804 to print the information received by the information receiving computer 1803 on a sheet and bears the running costs, in order to compensate for the running costs corresponding to ink or paper required to print the information transmitted from the information intermediary computer 1802 to the information receiving computer 1804 using the printer 1804.

[0305] Reference numeral 1806 denotes the Internet for data communication among the information transmission request computer 1801, the information intermediary computer 1802, the information receiving computer 1803, and the payment recording computer 1805.

[0306] In this modification, the information transmission request computer 1801 is newly added. Therefore, the structure of this modification is similar to that of the related art except that the information transmission request computer 1801 is added.

[0307] According to an information communication method according to this modification, the information intermediary computer can perform a property transfer process or a process of selecting the destination of information, and the information transmission request computer or an information transmitter using the same does not need to perform these processes. In addition, the information receiver does not need to register a receiver ID in a plurality of information transmitters.

[0308] [Another modification] In the above-described embodiment, an information communication method when the information transmitter independently transmits information has been described, but the present invention is not limited

thereto. The present invention may be applied to an information communication method when the information receiver independently requests information.

[0309] Fig. 19 is a diagram illustrating the flow of data when the information receiver independently requests information. Next, the flow of data and the process of each apparatus according to this modification will be described with reference to Fig. 19.

[0310] First, when the information receiving computer 102 requests the information transmitting computer 101 to transmit information, the information receiving computer 1803 transmits information request data to the information transmission request computer 1801 (1901). The information request data includes receiver ID data and information identification data. As the information identification data, character string data having a URL (uniform resource locator) format is used.

[0311] Then, when the information transmitting computer 1803 receives the information request, the information transmission request computer 1801 transmits payment reservation data to the payment recording computer 1805 (1902).

[0312] The subsequent processes are the same as those in Fig. 5, and thus a description thereof will be omitted.

[0313] This modification is effective in the case in which, when catalog data is acquired through the Internet and then printed out, the transmitter of the catalog data bears the cost of printing the catalog data.

[0314] [Another modification] In the information

communication method according to the related art in which information communication is performed at the request of the receiver, similar to the above-described embodiment, data communication may be performed in various ways. However, in a peculiar method of performing information communication at the request of the receiver, preferably, before the information request data is transmitted, data indicating that the information transmitter bears the information output cost is transmitted to the information receiving computer. For example, data indicating that the information transmitter bears the information output cost may be added to data describing URL included in the information request data.

[0315] [Another modification] In the above-described embodiment, payment is performed regardless of whether the transmission information is actually printed out by the printer. However, actually, the transmission information may not be printed out due to paper out or empty ink. Therefore, it is preferable to provide a data communication method, a process, or a means that does not perform payment when the print-out is not performed due to paper out or empty ink.

[0316] Fig. 20 is a diagram illustrating data communication among the information transmitting computer 101, the information receiving computer 102, the printer 103, and the payment recording computer 104 according to this modification. Next, data communication and the main process of each computer according to this modification will be described with reference to Fig. 20.

[0317] First, when it is necessary to transmit information from the information transmitting computer 101 to the information receiving computer 102, the information transmitting computer 101 transmits payment reservation data to the payment recording computer 104 (2001). The payment reservation data is the same as that shown in Fig. 6.

[0318] Then, when the payment recording computer 104 receives the payment reservation data, it performs a payment reservation process. The payment reservation process is the same as that in the embodiment described with reference to Fig. 5, and thus a description thereof will be omitted. Then, the payment recording computer transmits a payment guarantee data as a reply to the information transmitting computer 101 (2002).

[0319] Then, when the information transmitting computer 101 receives the payment guarantee ID data, the received payment guarantee ID data and the transmission information data stored in the transmission information data storage unit 203 are transmitted to an information receiving computer 102 having the address stored in the receiving computer address storage unit 201 (2003). This process and the data are the same as those in the above-described embodiment, and thus a description thereof will be omitted.

[0320] Then, when the information receiving computer 102 receives the transmission data, it stores the received transmission data in the transmission data storage unit 302, and performs a payment confirmation process. First, the information receiving computer extracts the payment guarantee

ID data included in the transmission data, and transmits payment confirmation data including the payment guarantee ID data to the payment recording computer 104 (2004). The payment confirmation data is the same as the payment confirmation request data used in the above-described embodiment.

[0321] Then, when the payment recording computer 104 receives the payment confirmation data, it performs a payment confirmation process. First, the payment recording computer extracts a data record having matched payment guarantee ID data from the data records stored in the payment reservation data storage unit 403, using the payment guarantee ID included in the payment confirmation request data as a key. When there is no data record, payment confirmation data indicating that payment is not performed is transmitted as a reply (2005). The payment guarantee data is the same as the payment confirmation data described with reference to Figs. 11 and 12.

[0322] When the data record having a matched payment guarantee ID is extracted, the value in the receiver ID field 703 is compared with the value in the receiver ID section of the payment confirmation request data. When these values are not matched with each other, payment guarantee data indicating that payment is not performed is transmitted as a replay to the information receiving computer 102 (2005).

[0323] When these values are matched with each other, payment confirmation data indicating payment guarantee is transmitted to the information receiving computer 102 (2005).

[0324] Then, when the information receiving computer 102

receives the payment guarantee data and the value in the payment condition section of the payment guarantee data is NG, the process ends. When the value in the payment condition section is OK, the transmission information data of the transmission data stored in the transmission data storage unit 302 is transmitted to the printer 103 through a parallel interface (2006).

[0325] When the printer 103 receives the transmission information, it prints out the transmission information on a sheet based on the transmission information data. Then, when it is checked that the transmission information is printed on the sheet, the printer transmits print end data to the information receiving computer 102 (2007).

[0326] When the information receiving computer 102 receives the print end data, it transmits payment request data including the same data as the payment confirmation data to the payment recording computer 104 (2008). The payment request data has a different ID code from the packet included in the header section of the payment confirmation data. Therefore, it is possible to identify the payment recording computer 104.

[0327] Then, when the payment recording computer 104 receives the payment request data, it performs a payment confirmation process. First, the payment recording computer extracts a data record having matched payment guarantee ID data from the data records stored in the payment reservation data storage unit, using the payment guarantee ID included in the payment request data as a key. Then, the payment recording computer updates the transmitter payment amount data storage unit 405 and the

receiver acquisition cost data storage unit 406.

[0328] First, the payment amount, which is the value in the payment amount field 704, is added to a transmitter payment amount with reference to transmitter payment amount data indicated by the transmitter ID in the transmitter ID field 702 of the extracted data record. Then, similarly, the payment amount is added with reference to receiver acquisition cost data indicated by the receiver ID in the receiver ID field 703. Then, the data record is deleted from the payment reservation data storage unit 403.

[0329] [Another modification] In the above-described embodiment, when it is determined that the output process of the printer ends, the printer transmits the print end data, but the present invention is not limited thereto. Particularly, when the transmission information data is not exactly printed out due to empty ink, it is preferable to provide a means or a process that determines that the transmission information is not completely printed out. For example, a scanner that scans an image from the printed sheet may be further provided, and a means that compares the scanned image data with image data to be output to determine whether the output process is completely performed may be provided.

[0330] [Another modification] In the above-mentioned modification, a malicious receiver may generate payment request data to get the money required to print information by fraud, even though a print request is not issued. Therefore, it is preferable to provide a means or a process that prevents the payment request data from being easily generated. For example,

it is preferable to provide a process that, when it is checked that the printer 103 prints out information, uses a secret key data, which is incorporated into the printer 103 and cannot be extracted by the outside, to create signature data for the payment guarantee data, transmits the signature data to the information receiving computer 102, and allows the information receiving computer 102 to add signature data to the payment request data. The payment recording computer 104 performs a payment confirm process on only the payment request data having the signature data added thereto.

[0331] [Another modification] The above-mentioned modification further includes a process of guaranteeing the printout, as compared to the embodiment described with reference to Fig. 5, but the present invention is not limited thereto. The process of guaranteeing the printout may be additionally provided in other data communication methods. For example, in the embodiment described with reference to Fig. 15, in the process of guaranteeing the printout, signature data indicating that the printer 103 has printed out information may be added to acquisition promise data, and the signature data may be added when the acquisition promise data is transmitted to the payment recording computer 104.

[0332] [Another modification] In the above-described embodiment, the information receiving computer 102 implements an information receiving process, and the printer 103 implements an information output process. However, one apparatus may implement the two processes. For example, in the

above-described embodiment, a network printer that implements both the process implemented by the information receiving computer 102 and the process implemented by the printer 103 may be used. In this case, it is also possible to obtain the same effect as described above.

[0333] Fig. 21 is a diagram illustrating the structure of an information communication system according to this modification.

[0334] In Fig. 21, reference numeral 2101 denotes an information transmitting computer used for an information transmitter to transmit information. Reference numeral 2102 denotes a network printer that receives information from the information transmitting computer 2101 and prints out the information on a sheet.

[0335] A payment recording computer 2103 records the money paid from an information transmitter who transmits information using the information transmitting computer 2101 to an information receiver who uses the network printer 2102 to print information on a sheet and bears the running costs, in order to compensate for the running costs corresponding to ink or paper required to print the information transmitted from the information transmitting computer 2101 using the network printer 2102. The payment recording computer 2103 has the same structure as the payment recording computer 104 (see Fig. 4).

[0336] Reference numeral 2104 denotes the Internet for data communication among the information transmitting computer 2101, the network printer 2102, and the payment recording computer

2103.

[0337] [Another modification] In the above-described embodiment, the payment amount is determined based on the number of sheets printed by the information transmitting computer, but the present invention is not limited thereto. Any determining method may be used. Next, some modifications that determine a payment amount for guaranteeing a printout will be described. First, an example in which the printer determines the payment amount will be described below.

[0338] Fig. 20 is a diagram illustrating data communication among the information transmitting computer 2001, the network printer 2002, and the payment recording computer 2003 according to this modification. Data communication and the main process of each computer according to this modification will be described with reference to Fig. 20.

[0339] First, when it is necessary to transmit information from the information transmitting computer 2101 to the information receiving computer 2103, the information transmitting computer 2101 transmits payment reservation data to the payment recording computer 2103 (2201). The payment reservation data is the same as that shown in Fig. 6.

[0340] Then, when the payment recording computer 2103 receives the payment reservation data, it performs a payment reservation process. The payment reservation process is similar to that in the embodiment described with reference to Fig. 5 except that payment amount data is not included. Then, the payment recording computer transmits a payment guarantee data as a reply to the

information transmitting computer 2101 (2202).

[0341] Then, when the information transmitting computer 2101 receives the payment guarantee ID data, the received payment guarantee ID data and the transmission information data stored in the transmission information data storage unit 203 are transmitted to the network printer 2102 having the address stored in the receiving computer address storage unit 201 (2203). This process and the data are the same as those in the above-described embodiment, and thus a description thereof will be omitted.

[0342] Then, when the network computer 2102 receives the transmission data, it stores the received transmission data in the transmission data storage unit 302, and performs a payment confirmation process. First, the network printer generates output image data from the transmission information data included in the transmission data, and estimates the cost required to output the output image data. That is, the network printer determines a sheet size to be output, and multiplies the average output cost of the sheet size by the number of printouts to estimate the output cost, which is referred to as a payment amount. Then, the network printer extracts the payment guarantee ID data included in the transmission data, and transmits payment confirmation data including the payment guarantee ID data and payment amount data to the payment recording computer 2103 (2204).

[0343] Then, when the payment recording computer 2103 receives the payment confirmation data, it performs a payment confirmation process. First, the payment recording computer extracts a data

record having matched payment guarantee ID data from the data records stored in the payment reservation data storage unit (not shown), using the payment guarantee ID included in the payment confirmation data as a key. When there is no data record, payment confirmation data indicating that payment is not performed is transmitted as a reply (2205). The payment guarantee data is the same as the payment confirmation data described with reference to Figs. 11 and 12.

[0344] When the data record having a matched payment guarantee ID is extracted, the value in the receiver ID field 703 is compared with the value in the receiver ID section of the payment confirmation request data. When these values are not matched with each other, payment guarantee data indicating that payment is not performed is transmitted as a replay to the network printer 2102 (2205).

[0345] When these values are matched with each other, payment amount data included in the payment confirmation data is set in the payment amount field 704 of the data record. Then, payment confirmation data indicating payment guarantee is transmitted to the network printer 2102 (2205).

[0346] Then, when the network printer 2102 receives the payment guarantee data and the value in the payment condition section of the payment guarantee data is NG, the process ends. When the value in the payment condition section is OK, an image obtained by expanding the transmission information data of the transmission data stored in the transmission data storage unit 302 is printed out on a sheet. Then, when it is checked that

the transmission information has been printed out the sheet, the network printer transmits payment request data including the same data as the payment confirmation data to the payment recording computer 2103 (2206). The payment request data has a different ID code from the packet included in the header section of the payment confirmation data. Therefore, it is possible to identify the payment recording computer 2103.

[0347] Then, when the payment recording computer 2103 receives the payment request data, it performs a payment confirmation process. First, the payment recording computer extracts a data record having matched payment guarantee ID data from the data records stored in the payment reservation data storage unit, using the payment guarantee ID included in the payment request data as a key. Then, the payment recording computer updates the transmitter payment amount data storage unit 405 and the receiver acquisition cost data storage unit 406. First, the payment amount, which is the value in the payment amount field 704, is added to a transmitter payment amount with reference to transmitter payment amount data indicated by the transmitter ID in the transmitter ID field 702 of the extracted data record. Then, similarly, the payment amount is added with reference to receiver acquisition cost data indicated by the receiver ID in the receiver ID field 703. Then, the data record is deleted from the payment reservation data storage unit.

[0348] [Another modification] In the above-described embodiment, in order to determine the payment amount, the average output cost is used to estimate the payment amount, but the present

invention is not limited thereto. Particularly, it is preferable to include a process or a means that reflects the output cost. For example, the number of dots of each color may be counted based on the image data obtained by expanding the transmission information data, the amount of each color toner or ink used may be estimated, and the estimated amount may be multiplied by the set cost of toner or ink to estimate the output cost.

[0349] [Another modification] In the above-described embodiment, the average output cost of a sheet or the set cost of toner or ink is fixed, but the present invention is not limited thereto. The cost may be variable. Particularly, since the average output cost or the set cost varies over time, the network printer may include a process or a means that acquires data from, for example, a server computer of a printer manufacturer and updates data.

[0350] [Another modification] In the above-described embodiment, the network printer calculates an estimated amount, but the present invention is not limited thereto. The information transmitting computer or the payment recording computer may determine an estimated payment amount. In this case, it is also possible to obtain the same effects as described above. In this structure, data indicating the kind of printer may be transmitted to the information communication computer or the payment recording computer.

[0351] [Another modification] In the above-described embodiment, any one of the information communication computer,

the network printer, and the payment recording computer determines the payment amount, but two or more computers or printers may include a process or a means that estimates the payment amount. For example, the network computer may include a process or a means that ends the process, when the network printer receives the payment amount determined by the information transmitting computer and when the amount estimated by the network computer network computer is more than the payment amount.

[0352] [Another modification] In the above-described embodiment, when two or more of the information communication computer, the network printer, and the payment recording computer determine the payment amount and the payment amount is not correct, the computers or printers end the process, but the present invention is not limited thereto. The computers or printers may receive/transmit negotiation data to determine the payment amount.

[0353] For example, the following processes or means may be provided: a process or means that transmits payment amount change request data to the information transmitting computer when the network printer receives the payment amount determined by the information transmitting computer and the amount estimated by the network computer is more than the payment amount; a process or means that, when the information transmitting computer receives the payment change request data, determines whether to accept the amount demanded, and transmits payment change response data indicating whether to accept the amount demanded;

and a process or means that determines whether to output a new payment amount when the network printer receives the payment change response data.

[0354] [Another modification] In the above-described embodiment, when there is no payment guarantee or the payment amount is short, the information communication computer or the network printer does not perform an output process, but the present invention is not limited thereto. The information communication computer or the network printer may perform any process when there is no payment guarantee or the payment amount is short. For example, the following process or means may be provided which uses the user interface of the information receiving computer or the network printer to output a message asking the user about the output of information, and prints the information when the user inputs an output instruction.

[0355] [Another modification] In the above-described embodiment, there is no restriction in the payment amount, but the present invention is not limited thereto. It is preferable to provide a process or means that restricts the payment amount. For example, when the estimated amount is set to be more than the actual cost, it is assumed that a large amount of information is output in order to make a profit. In order to prevent that, a process or means may be provided which stops to generate the signature of the network printer or to perform the payment recording of the payment recording computer, when the payment amount is more than a predetermined amount within a predetermined period of time.

[0356] [Another modification] In the information transmitting computer that transmits information in response to an information request, in order to cope with the case in which a receiver requests to transmit the same information in large quantities in order to make a profit, the information transmitting computer may include a process of means that limits the number of times a receiver having the same receiver ID requests the same information to a predetermined value, and transmits no information or no payment guarantee data when the number of requests is larger than a predetermined value.

[0357] [Another modification] In the above-described embodiment, any method is performed for the transfer of property from the information transmitter to the information receiver in order to compensate for the information output cost, but a specific method may be used to perform the transfer of property. Particularly, since easy realization may cause a malicious information receiver to abuse the system, it is preferable to restrict the payment only to the direct payment of the information output cost.

[0358] For example, it is preferable to provide a process or means that allots the payment amount required to purchase supplies of the printer.

[0359] Fig. 23 is a diagram illustrating the structure of an information communication system according to this modification.

[0360] In Fig. 23, reference numeral 2301 denotes an information transmitting computer used for an information transmitter to

transmit information. Reference numeral 2302 denotes a network printer that receives information transmitted from the information transmitting computer 2101 and prints the received information on a sheet.

[0361] Reference numeral 2303 denotes a payment recording computer. The payment recording computer 2303 records the money paid from an information transmitter who transmits information using the information transmitting computer 2301 to an information receiver who uses the network printer 2302 to print information on a sheet and bears the running costs, in order to compensate for the running costs corresponding to ink or paper required to print the information transmitted from the information transmitting computer 2301 using the network printer 2302.

[0362] Reference numeral 2304 denotes a supplies seller computer. When receiving a supplies purchase request from the network printer 2302, the supplies seller computer 2304 inquires the payment recording computer 2303 about the acquisition cost of the receiver using the network printer 2302, and receives payments for supplies, such as ink or recording sheets, from the balance, and performs payment for and the delivery of the supplies.

[0363] Reference numeral 2305 denotes the Internet for data communication among the information transmitting computer 2301, the network printer 2302, the payment recording computer 2303, and the supplies seller computer 2304.

[0364] [Another modification] In the above-described

embodiment, the supplies are electronically ordered and paid, but the present invention is not limited thereto. Any process or means that implements the purchase and payment methods may be provided. In this case, it is possible to obtain the same effects as described above.

[0365] For example, the network printer may include a process or means that stores a receiver ID or acquisition cost data in an IC card, and the supplies seller computer may include a process or means that, when a consumer with the IC card having data stored in the acquisition cost data storage process purchases supplies, reads out data from the IC card, and uses the data stored in the IC card to perform the same process as that in the above-described embodiment, thereby receiving payment for the supplies.

[0366] [Another modification] Alternatively, the supplies seller computer may include a process of means that inputs a receiver ID and a process or means that uses the input receiver ID to perform the same process as that in the above-described embodiment, thereby receiving payment for the supplies. In this case, the consumer just has the receiver ID and presents the ID when purchasing supplies.

[0367] [Another modification] Alternatively, the network printer may include an ID output process or means that prints the ID data used in the above-described embodiment on a sheet.

[0368] [Another modification] In the above-described embodiment, one information transmitting computer is used for one (including a corporation) information transmitter. That

is, one information transmitting computer uses a unique transmitter ID, but the present invention is not limited thereto. For example, one information transmitting computer may have a plurality of transmitter IDs for information transmitters. The information receiving computer or the network printer may also have a plurality of receiver IDs.

[0369] [Another modification] In the above-described embodiment, in order to uniquely determine a payment guarantee ID, one payment guarantee ID is used only one time, but the present invention is not limited thereto. The settled payment guarantee ID may be reused. In this case, it is also possible to obtain the same effects as described above.

[0370] [Another modification] In the above-described embodiment, for clarity of description, one computer or printer is connected to the Internet, but the present invention is not limited thereto. A plurality of computers or printers may be connected to the Internet. However, when there is a plurality of payment recording computers, data for identifying the payment recording computers used in data communication may be added.

[0371] (Second embodiment) All of the above-described embodiments are modifications of the first embodiment according to the present invention. Next, a second embodiment will be described.

[0372] An information communication method according to the second embodiment includes: an information transmitting step of transmitting transmission information from an information transmitter to an information receiver; an information receiving

step of receiving, through a network, the transmission information transmitted in the information transmitting step; an information output step of outputting the transmission information received in the information receiving step; a charging step of charging a fee corresponding to the output cost in the information receiving step; and a charged fee payment data management step of managing data for guaranteeing that the information transmitter who transmits information in the information transmitting step bears the fee charged in the charging step. Fig. 24 is a diagram illustrating the structure of an information communication system implementing the information communication method according to the second embodiment of the present invention.

[0373] In Fig. 24, reference numeral 2401 denotes an information transmitting computer used for an information transmitter to transmit information.

[0374] Reference numeral 2402 denotes a billing printer. The billing printer 2402 includes an output means that outputs information on a sheet, a means that stores billing data, and a means that updates billing data for information output. The billing printer 2402 further includes: a means that receives transmission information transmitted from the information transmitting computer 2401; a means that outputs the received transmission information; and a means that, when an information transmitter who uses the information transmitting computer 2401 to transmit information receives data indicating whether to bear for the output of the transmission information, stores billing

data for the information transmitter.

[0375] Reference numeral 2403 denotes a billing management computer that periodically receives billing data from the billing printer, and performs a payment process on the billing data. Reference numeral 2404 denotes the Internet for data communication among the information transmitting computer 2401, the billing printer 2402, and the billing management computer 2403.

[0376] When performing a general printing operation, the billing printer 2402 adds a predetermined fee to the billing data stored in a billing data storage unit. The fee may be fixed for the output of one sheet, or it may vary depending on the size of a sheet to be output or the amount of ink or toner used. The billing data is transmitted to the billing management computer 2403 at a predetermined time interval or at the time determined by the billing management computer 2403.

[0377] The billing management computer 2403 uses the received billing data to perform a payment process on the user of the billing printer 2402. For example, the billing management computer makes a bill or data for withdrawing money from a bank account. Instead of charging for the output of one sheet, a consigner or an operator of the billing management computer 2403 performs the maintenance of the billing printer 2402.

[0378] When supplies of the printer 2402, such as ink, toner, or sheets, are supplemented, the user of the printer 2402 bears only the print fee. Therefore, when the information transmitter bears the information output cost, it is preferable that the

information transmitter bear the print fee. Each apparatus according to this embodiment includes processes or means for implementing this method.

[0379] Next, the flow of data and the main process of each apparatus according to this embodiment will be described with reference to Fig. 25. First, the information transmitting computer 2401 generates a secret key and a public key for making a signature for data indicating that the information transmitter bears the information output cost, and transmits public key notification data including public key data and transmitter ID data for identifying a transmitter to the billing management computer 2403 (2501).

[0380] When the billing management computer 2403 receives the public key notification data, it stores the transmitter ID data and the public key data included in the received data as one data record. In order to store the data, the billing management computer 2403 includes a public key storage means. The public key storage means stores a plurality of data records and searches the data record using the transmitter ID as an index.

[0381] Then, when it is necessary to transmit information from an information transmitter to an information receiver, the information transmitting computer 2401 generates a unique payment guarantee ID, and creates payment guarantee data including the transmitter ID, the receiver ID, and the payment guarantee ID. Then, the information transmitting computer uses the secret key to create signature data for the payment guarantee data. Then, the information transmitting computer creates

transmission data including the payment guarantee data, the signature data, and the transmission information data, and transmits the created data to the billing printer 2402 (2502).

[0382] Then, when the billing printer 2402 receives the transmission data, it extracts the transmitter ID from the received data, and searches public key data corresponding to the transmitter ID. In order to store the public key data, the billing printer 2402 includes a public key storage means. When a public key corresponding to the transmitter ID is not searched from the public key storage means, the billing printer transmits public key request data including the transmitter ID data to the billing management computer 2403 (2503).

[0383] When the billing management computer 2403 receives the public key request data, it searches a public key corresponding to the transmitter ID included in the received data from the public key storage means, and transmits public key response data including the public key data to the billing printer 2402 (2404). When no corresponding public key is searched, the billing management computer transmits public key response data indicating that no corresponding public key has been searched to the billing printer.

[0384] When the billing printer 2402 receives the public key response data indicating that no corresponding public key has been searched, the process ends. When receiving the public key response data including the public key, the billing printer uses the public key data to perform the next process. When the billing printer receives the transmission data and a public key

corresponding to the transmitter ID is searched from its own public key storage means, the billing printer also performs the next process.

[0385] First, the billing printer uses the public key to verify whether the signature data included in the transmission data is valid for the payment guarantee data included in the transmission data. When it is determined that the signature is not valid for the payment guarantee data, the process ends. When it is determined that the signature is valid for the payment guarantee data, the billing printer expands the transmission information data of the transmission data into an image and prints the image on a sheet. Then, the billing printer stores a prescribed print fee corresponding to the printout as one data record in an external billing data storage means together with the payment guarantee data and the signature data.

[0386] Thereafter, even when the information transmitting computer transmits another transmission data, the billing printer performs a printing process without inquiring the billing management computer 2403.

[0387] When the billing management computer 2403 receives the billing data, it also receives external billing data corresponding thereto. The billing management computer 2403 uses the received external billing data to charge a transmitter having the transmitter ID included in the data record the print fee included in the external billing data.

[0388] In this way, in the second embodiment, it is possible to implement a method of charging an information transmitter

the print fee, which is the cost of printing out information transmitted from the information transmitter, without charging the information receiver the print fee.

[0389] [Modification] In the above-described embodiment, billing data for a printer user is stored, and the billing management computer periodically receives the billing data and performs a payment process on the user. However, the present invention is not limited thereto. Any payment method may be used. In this case, it is also possible to obtain the same effects as described above. For example, a process or means may be provided in which a fee receiving apparatus is connected to the printer and receives the print fee in cash in the place.

[0390] [Another modification] In the above-described embodiment, the billing management computer receives billing data for a printer user or external billing data for an information transmitter through the Internet, but the present invention is not limited thereto. For example, the billing management computer may receive the billing data or the external billing data through a portable storage medium, such as an IC card. In this case, the billing printer includes a process or means that outputs data to the IC card. In addition, the billing management computer includes a process or means that reads data from the IC card.

[0391] [Another modification] Alternatively, data may be converted into information having formats other than electronic data, the converted information is converted into electronic data, and then the electronic data may be input. For example,

the billing printer may include a billing data display process or means, or it may include an output process or means that outputs the billing data on a sheet. In addition, the billing management computer may include a data input process or means that inputs the billing data using a keyboard.

[0392] (Third embodiment) An information communication method according to a third embodiment includes: an information transmitting step of transmitting transmission information from an information transmitter to an information receiver; an information receiving step of receiving, through a network, the transmission information transmitted in the information transmitting step; an information output step of outputting the transmission information received in the information receiving step, an output cost being required to output the transmission information; and a contract data management step of managing contract data for limiting a destination of the information transmitted in the information transmitting step to a contracted information receiver.

[0393] Fig. 26 is a diagram illustrating the structure of an information communication system that implements the information communication method according to the third embodiment of the present invention.

[0394] In Fig. 26, reference numeral 2601 denotes an information transmission management computer used for an information transmitter to transmit information. Reference numeral 2602 denotes a contractual printer that outputs only data transmitted from the contracted information transmission management

computer 2601. Reference numeral 2603 denotes the Internet for data communication between the information transmission management computer 2601 and the contractual printer 2602.

[0395] The contractual printer 2602 is a network printer that limits data capable of instructing a print output. The contractor bears the maintenance cost of the contractual printer 2602 or the cost for supplies, such as ink or toner used by the printer. Therefore, when the contractor, who is an information transmitter, uses the information transmission management computer 2601 to transmit information, the information transmitter can bear the cost required for printing.

[0396] The information transmission management computer 2601 includes: a transmission data creating means that creates transmission data including data guaranteeing that the transmission data is transmitted from the information transmission management computer; an identification data storage means that stores the identification data of the contractual printer; and a transmitting means that transmits the transmission data to only the contractual printer having the identification data stored in the identification data storage means.

[0397] For example, the transmission data creating means uses a secret key to create signature data for information data to be transmitted. For example, the IP address of the contractual printer is used as the identification data.

[0398] The contractual printer 2602 includes: a means that receives the transmission data; a verification means that

extracts data guaranteeing that the transmission data is transmitted from the information transmission management computer 2601 of the contractor from the received transmission data and verifies the extracted data; and an output means that prints out information included in the transmission data when the extracted data is verified.

[0399] The verification means uses, for example, the public key of the contractor to verify whether signature data included in the transmission data is valid for information data included in the transmission data.

[0400] In the information communication system according to this embodiment, the use of the above means makes it possible to prevent a third party from using the contractual printer 2602 to print information, and to charge an information transmitter the printing cost.

[0401] [Modification] In the above-described embodiment, data is output only when it is verified that data guaranteeing that the transmission data is transmitted from the information transmission management computer of the contractor exists in the transmission data received by the contractual printer, but the present invention is not limited thereto. For example, any means verifying that the transmission data is transmitted from the information transmission management computer of the contractor may be used. In this case, it is also possible to obtain the same effects as described above.

[0402] For example, when the information transmission management computer of the contractor is connected to the

contractual printer by a telephone line, the information transmission management computer may call the contractual printer, and the contractual printer may check the telephone number of a caller and compare the telephone number with the telephone number of the information transmission management computer of a registered contractor in order to perform the verification.

[0403] [Another modification] In the above-described embodiment, the user of the contractual printer cannot use the contractual printer to print information, but the present invention is not limited thereto. A means that allows the user of the contractual printer to print information using the contractual printer may be provided. For example, the contractual printer may include a means that identifies a computer used by the user of the contractual printer, and a process or means may be provided which, when receiving information output request data from the computer, performs the same process as that of processing external billing data in the second embodiment to output information, and charges the user the output cost.

[0404] [Another modification] Alternatively, the user of the contractual printer may also transmit information transmission data to request the information transmission management computer to transmit information, and use the printer to perform printing. In this case, the same process is performed on the user of the printer and another user who requests the transmission of information.

[0405] [Another modification] The above is the modifications

of the third embodiment according to the present invention. Next, other modifications common to the second and third embodiments according to the present invention will be described.

[0406] First, in the above-described embodiments, there is no means that distributes and manages supplies, but it is preferable to provide a distribution and management means. For example, the billing printer may include a means which transmits supplies request data to the billing management computer when the amount of ink or toner used by the billing printer is equal to or smaller than a predetermined value. In this case, the billing management computer may include a distribution means that creates instruction data to distribute supplies, when the supplies request data is received. In addition, the contractual printer and the information transmission management computer may have the same means.

[0407] [Another modification] The above-described embodiment does not include a means that prevents the distributed supplies from being diverted to another printer, but the present invention is not limited thereto. It is preferable to provide a means that prevents the distributed supplies from being diverted to another printer. For example, an ink cartridge used by the printer may include a means that stores ID data identifying the printer, and the printer may include a means that stops the operation of the printer when the ID data of the printer is not identical to the ID data stored in the ink cartridge.

[0408] [Another modification] In the above-described embodiment, an example of the flow of data or the structure of

an apparatus is described, but the present invention is not limited thereto. The third embodiment may include the security means, the information intermediary means, and the information request means described in the first embodiment of the present invention.

[0409] [Another modification] The above-described modifications are common to the second and third embodiments according to the present invention. Next, modifications common to the first to third embodiments according to the present invention will be described.

[0410] In the above-described embodiment, the printer is used as an information output apparatus, but the present invention is not limited thereto. Any information output apparatus may be used. For example, a facsimile or a multi-function copier may be used.

[0411] [Another modification] In the above-described embodiment, the information transmitter bears the information output costs of the information output apparatus, but the present invention is not limited thereto. The information receiver may bear the information output costs of the information output apparatus.

[0412] For example, the following information output method may be used in which, during the display of data, such as a moving picture, when software that displays data of a specific format is downloaded from a server, a fee is charged to the user according to the time when the software is used or the number of times the software is used. The payment of the fee by the information

transmitter may be implemented by the same method as that in the above-described embodiments.

[0413] [Another modification] In the above-described embodiment, the output cost or the payment amount is paid in Yen, but the present invention is not limited thereto. Any currency or any unit used for the payment of specific property may be used. In addition, the above-described embodiment, numerical data representing the output cost or the payment amount is an integer, but it may be a decimal.

[0414] [Another modification] In the above-described embodiment, the same currency unit is used to represent the output cost or the payment amount, but the present invention is not limited thereto. For example, a plurality of currency units may be used. In this case, an arbitrary apparatus, such as the payment recording computer, the billing printer, or the billing management computer, may include a process or means that exchanges different currency units.

[0415] [Another modification] In the above-described embodiment, each data communication uses an independent TCP/IP protocol, but the present invention is not limited thereto. For example, data communication protocols other than the TCP/IP protocol may be used. In addition, the existing TCP/IP protocol may be used. For example, data may be transmitted by electronic mail according to an electronic mail protocol, or data may be transmitted or received by HTTP.

[0416] [Another modification] In the above-described embodiment, the Internet is used for data communication among

apparatuses, but the present invention is not limited thereto. Any communication means may be used. For example, an exclusive line may be used for data communication. In addition, a plurality of communication lines may be used. For example, data broadcasting and the Internet may be combined with each other.

[0417] [Another modification] In the above-described embodiment, the information receiving computer and the printer are connected to each other by the parallel cable, but the present invention is not limited thereto. For example, any connection means, such as a USB cable or a wireless system, may be used.

[0418] [Another modification] The encoding scheme, the identification data, and the data storage method used by the above-described embodiments are not particularly limited, but any scheme or method may be used as long as it can obtain the same effects as described above.

[0419] [Another modification] In the above-described embodiment, a computer, a CPU, or an MPU is used to execute a software program that implements the above-mentioned functions. A logic circuit that implements some or all of the functions may be used to achieve the present invention.

[0420] [Another modification] Further, the present invention may be applied to a system including a plurality of apparatuses or one apparatus including one device. In addition, a recording medium having program codes (program products) of software implementing the functions of the above-described embodiments recorded thereon may be supplied to a system or an apparatus, and a computer (or a CPU or an MPU) of the system or the apparatus

may read the program codes stored in the recording medium and execute the read program codes. In this case, the program codes read out from the recording medium implement the functions of the above-described embodiments, and the present invention includes the recording medium having the program codes recorded thereon.

[0421] [Another modification] Examples of the recording medium for supplying the program codes include a floppy disk, a hard disk, an optical disk, a magneto-optical disk, a CD-ROM, a CD-R, a magnetic tape, a non-volatile memory card, and a ROM.

[0422] [Another modification] The program codes read by the computer may be executed to implement the functions of the above-described embodiments. In addition, an OS operating on the computer may execute some or all of the actual processes based on instructions of the program codes, and the functions of the above-described embodiments may be implemented by the processes.

[0423] [Another modification] Further, the program codes read out from the recording medium may be written into a memory provided in a feature expansion board that is inserted into the computer, or a feature expansion unit that is connected to the computer. Then, for example, a CPU provided on the feature expansion board or the feature expansion unit may execute some or all of the actual processes based on the program codes, and the functions of the above-described embodiments may be implemented by the processes.

[0424]

[Effects of the Invention] As described above, an information communication method according to the present invention includes: an information transmitting step of transmitting transmission information in order to transmit information from an information transmitter to an information receiver; an information receiving step of receiving the transmission information transmitted in the information transmitting step through a network; an information output step of outputting the transmission information received in the information receiving step and requesting an information output cost; and an output cost payment management step of managing data for charging the information transmitter who transmits information in the information transmitting step the output cost. According to the information communication method including the information output step of charging the information transmitter the information output cost, it is possible to promote information communication when it is generally accepted that the information transmitter bears an information communication cost.

[Brief Description of the Drawings]

[Fig. 1] Fig. 1 is a diagram illustrating the basic structure of an information communication system implementing an information communication method according to a first embodiment of the present invention.

[Fig. 2] Fig. 2 is a block diagram illustrating an information transmitting apparatus according to the first embodiment of the present invention.

[Fig. 3] Fig. 3 is a block diagram illustrating an information

receiving apparatus according to the first embodiment of the present invention.

[Fig. 4] Fig. 4 is a block diagram illustrating a property transfer management apparatus according to the first embodiment of the present invention.

[Fig. 5] Fig. 5 is a diagram illustrating the flow of data according to the first embodiment of the present invention.

[Fig. 6] Fig. 6 is a diagram illustrating the structure of a payment reservation data packet according to the first embodiment of the present invention.

[Fig. 7] Fig. 7 is a diagram illustrating the structure of a payment reservation data storage unit according to the first embodiment of the present invention.

[Fig. 8] Fig. 8 is a diagram illustrating the structure of a payment guarantee data packet according to the first embodiment of the present invention.

[Fig. 9] Fig. 9 is a diagram illustrating the structure of a transmission data packet according to the first embodiment of the present invention.

[Fig. 10] Fig. 10 is a diagram illustrating the structure of a payment confirmation request data packet according to the first embodiment of the present invention.

[Fig. 11] Fig. 11 is a diagram illustrating the structure of a payment confirmation data packet according to the first embodiment of the present invention.

[Fig. 12] Fig. 12 is a diagram illustrating the structure of another payment confirmation data packet according to the first

embodiment of the present invention.

[Fig. 13] Fig. 13 is a flowchart illustrating the flow of an information transmitting process according to the first embodiment of the present invention.

[Fig. 14] Fig. 14 is a diagram illustrating the flow of data according to a modification of the first embodiment of the present invention.

[Fig. 15] Fig. 15 is a diagram illustrating the flow of data according to another modification of the first embodiment of the present invention.

[Fig. 16] Fig. 16 is a diagram illustrating the basic structure of Another modification of the first embodiment of the present invention.

[Fig. 17] Fig. 17 is a diagram illustrating the flow of data according to the above modification of the first embodiment of the present invention.

[Fig. 18] Fig. 18 is a diagram illustrating the basic structure of Another modification of the first embodiment of the present invention.

[Fig. 19] Fig. 19 is a diagram illustrating the flow of data according to the above modification of the first embodiment of the present invention.

[Fig. 20] Fig. 20 is a diagram illustrating the flow of data according to Another modification of the first embodiment of the present invention.

[Fig. 21] Fig. 21 is a diagram illustrating the basic structure of Another modification of the first embodiment of the present

invention.

[Fig. 22] Fig. 22 is a diagram illustrating the flow of data according to the above modification of the first embodiment of the present invention.

[Fig. 23] Fig. 23 is a diagram illustrating the basic structure of Another modification of the first embodiment of the present invention.

[Fig. 24] Fig. 24 is a diagram illustrating the basic structure of an information communication system implementing an information communication method according to a second embodiment of the present invention.

[Fig. 25] Fig. 25 is a diagram illustrating the flow of data according to a modification of the second embodiment of the present invention.

[Fig. 26] Fig. 26 is a diagram illustrating the basic structure of an information communication system implementing an information communication method according to a third embodiment of the present invention.

[Explanation of Reference Numerals]

101, 2301, 2401: INFORMATION TRANSMITTING COMPUTER

102, 1601, 1803: INFORMATION RECEIVING COMPUTER

103, 1602, 1804: PRINTER

104, 1805, 2303: PAYMENT RECORDING COMPUTER

105, 1604, 1806, 2305, 2404, 2603: INTERNET

201: RECEIVING COMPUTER ADDRESS STORAGE UNIT

202: RECEIVER ID STORAGE UNIT

203: TRANSMISSION INFORMATION DATA STORAGE UNIT

204: PAYMENT GUARANTEE DATA ACQUIRING UNIT
205: TRANSMISSION DATA TRANSMITTING UNIT
206, 301, 401: COMMUNICATION UNIT
302: TRANSMISSION DATA STORAGE UNIT
303: PAYMENT CONFIRMATION UNIT
304: OUTPUT DATA TRANSMITTING UNIT
402: PAYMENT RESERVATION UNIT
403: PAYMENT RESERVATION DATA STORAGE UNIT
404: PAYMENT CONFIRMATION UNIT
405: TRANSMITTER PAYMENT AMOUNT DATA STORAGE UNIT
406: RECEIVER ACQUISITION COST DATA STORAGE UNIT
1603: INFORMATION TRANSMITTING/RECORDING COMPUTER
1801: INFORMATION TRANSMISSION REQUEST COMPUTER
1802: INFORMATION INTERMEDIARY COMPUTER
2302: NETWORK PRINTER
2304: SUPPLIES SELLER COMPUTER
2402: BILLING PRINTER
2602: CONTRACTUAL PRINTER
2601: INFORMATION TRANSMISSION MANAGEMENT COMPUTER

FIG. 1

101: INFORMATION TRANSMITTING COMPUTER
102: INFORMATION RECEIVING COMPUTER
103: PRINTER
104: PAYMENT RECORDING COMPUTER

FIG. 2

201: RECEIVING COMPUTER ADDRESS STORAGE UNIT
202: RECEIVER ID STORAGE UNIT
203: TRANSMISSION INFORMATION DATA STORAGE UNIT
204: PAYMENT GUARANTEE DATA ACQUIRING UNIT
205: TRANSMISSION DATA TRANSMITTING UNIT
206: COMMUNICATION UNIT

FIG. 3

301: COMMUNICATION UNIT
302: TRANSMISSION DATA STORAGE UNIT
303: PAYMENT CONFIRMATION UNIT
304: OUTPUT DATA TRANSMITTING UNIT

FIG. 4

401: COMMUNICATION UNIT
402: PAYMENT RESERVATION UNIT
403: PAYMENT RESERVATION DATA STORAGE UNIT
404: PAYMENT CONFIRMATION UNIT
405: TRANSMITTER PAYMENT AMOUNT DATA STORAGE UNIT
406: RECEIVER ACQUISITION COST DATA STORAGE UNIT

FIG. 5

INFORMATION TRANSMITTING COMPUTER

PAYMENT RECORDING COMPUTER

INFORMATION RECEIVING COMPUTER

PRINTER

FIG. 6

601: HEADER

602: TRANSMITTER ID

603: RECEIVER ID

604: PAYMENT AMOUNT

FIG. 7

701: PAYMENT GUARANTEE ID

702: TRANSMITTER ID

703: RECEIVER ID

704: PAYMENT AMOUNT

FIG. 8

801: HEADER

802: PAYMENT GUARANTEE ID

FIG. 9

901: HEADER

902: PAYMENT GUARANTEE ID

903: TRANSMISSION INFORMATION

FIG. 10

1001: HEADER

1002: PAYMENT GUARANTEE ID

1003: RECEIVER ID

FIG. 11

1101: HEADER

1102: PAYMENT CONDITION

FIG. 12

1201: HEADER

1202: PAYMENT CONDITION

FIG. 13

START

1301: STORE TRANSMISSION INFORMATION DATA

1302: IS THERE NON-PROCESSED RECEIVER?

1303: STORE RECEIVER DATA

1304: TRANSMIT PAYMENT RESERVATION DATA

1305: RECEIVE PAYMENT GUARANTEE DATA

1306: TRANSMIT TRANSMISSION DATA

END

FIG. 14

INFORMATION TRANSMITTING COMPUTER

PAYMENT RECORDING COMPUTER

INFORMATION RECEIVING COMPUTER
PRINTER

FIG. 15

INFORMATION TRANSMITTING COMPUTER
PAYMENT RECORDING COMPUTER
INFORMATION RECEIVING COMPUTER
PRINTER

FIG. 16

1601: INFORMATION RECEIVING COMPUTER
1602: PRINTER
1603: INFORMATION TRANSMITTING/RECORDING COMPUTER

FIG. 17

INFORMATION TRANSMITTING/RECORDING COMPUTER
INFORMATION RECEIVING COMPUTER
PRINTER

FIG. 18

1801: INFORMATION TRANSMISSION REQUEST COMPUTER
1802: INFORMATION INTERMEDIARY COMPUTER
1803: INFORMATION RECEIVING COMPUTER
1804: PRINTER
1805: PAYMENT RECORDING COMPUTER

FIG. 19

INFORMATION TRANSMITTING COMPUTER
PAYMENT RECORDING COMPUTER
INFORMATION RECEIVING COMPUTER
PRINTER

FIG. 20

INFORMATION TRANSMITTING COMPUTER
PAYMENT RECORDING COMPUTER
INFORMATION RECEIVING COMPUTER
PRINTER

FIG. 21

2101: INFORMATION TRANSMITTING COMPUTER
2102: NETWORK PRINTER
2103: PAYMENT RECORDING COMPUTER

FIG. 22

INFORMATION TRANSMITTING COMPUTER
PAYMENT RECORDING COMPUTER
NETWORK PRINTER

FIG. 23

2301: INFORMATION TRANSMITTING COMPUTER
2302: NETWORK PRINTER
2303: PAYMENT RECORDING COMPUTER
2304: SUPPLIES SELLER COMPUTER

FIG. 24

2401: INFORMATION TRANSMITTING COMPUTER

2402: BILLING PRINTER

2403: BILLING MANAGEMENT COMPUTER

FIG. 25

INFORMATION TRANSMITTING COMPUTER

BILLING MANAGEMENT COMPUTER

BILLING PRINTER

FIG. 26

2601: INFORMATION TRANSMISSION MANAGEMENT COMPUTER

2602: CONTRACTUAL PRINTER